S
632.95
A 7fee
1984

Final Environmental Impact Statement on Restricting Sales and Use of Endrin in Montana

PLEASE RETURN

STATE DOCUMENTS COLLECTION
JUL 3 0 1984
MONTANA STATE LIBRARY
1515 E. 6th AVE.
HELENA, MONTANA 59620

Montana Department of Agriculture
Helena, Montana

March 1984

AUG 10 1985

MONTANA STATE LIBRARY
S 632.95 A7fee 1984 c.1
Final environmental impact statement on
3 0864 00048364 7

ml
84-118

30¢

NRIS E

FINAL ENVIRONMENTAL IMPACT STATEMENT
ON
RESTRICTING SALES AND USE OF
ENDRIN IN MONTANA

MONTANA DEPARTMENT OF AGRICULTURE
Helena, Montana
March, 1984

Digitized by the Internet Archive
in 2016

https://archive.org/details/finalenvironmen1984mont_0

TABLE OF CONTENTS

Page

Introduction 1

I. Draft Environmental Impact Statement on Restricting Sales and Use of Endrin in Montana (issued July, 1983, incorporated by reference)

II. Modifications to the Draft Environmental Impact Statement 2

III. Addendum 5

A. Written Comments Received 6

National Wildlife Federation (France) 7
Velsicol Chemical Corporation (Frommer) 12
Montana Grain Growers Association (Johnson) 13
Marble & Seidlitz (Marble) 14
Montana Audubon Council (Marble) 16
Rosebud Audubon Society (Gorges) 17
Dept. of State Lands (Lommen) 17
Montana Dept. of Fish, Wildlife & Parks (Flynn) 18
League of Women Voters of Montana (Rhodes) 19
Rosebud-Treasure Wildlife Asso. (Rice) 19
State of Colorado, Dept. of Natural Resources (Grieb) 20
John C. Taylor 21
Defenders of Wildlife (Fischer) 21
Montana State University (Welch) 22
U.S.D.I. Fish & Wildlife Service (McEwen) 22
U.S. EPA, Region VIII (Welles) 24
State of California - Dept. of Fish & Game (Carper) 24
Montana Dept. of Agriculture (Granbois) 25
Montana House of Representative (Swift) 25
Skyline Sportsmen's Association, Inc. (Schomen) 26
Montana House of Representatives (Hanson) 26
State of Utah, Dept. of Lands (Dalley) 27
Oklahoma Dept. of Wildlife Conservation (Lewis) 27
State of California - Dept. of Food & Ag (Berryhill) 28
Dept. of Health & Human Services - Center for Disease Control (Wagner) 28
Kansas Fish & Game (Hanzlick) 29
University of Montana (Stout) 29
Edwin J. Kuntz 30
State of Oregon - Dept. of Fish & Wildlife (Jones) 30
James W. Byler 31
William R. Magnuson 31
Texas Dept. of Agriculture (White) 32
Charles Strand 32

Page

B. Oral Testimony Presented at Public Hearings 33

Miles City Hearing 34
Great Falls Hearing 50

C. Montana Department of Agriculture Responses to Comments and Testimony 67

Response 1 [comment p. 8] 68
Response 2 [comment p. 8] 68
Response 3 [comment p. 9, 14, 16, 18, 20, 21] 68
Response 4 [comment p. 10, 16, 18, 21, 63] 69
Response 5 [comment p. 10, 14, 15, 16, 18, 20, 21, 62] . 70
Response 6 [comment p. 10, 15, 20] 72
Response 7 [comment p. 12] 72
Response 8 [comment p. 12] 72
Response 9 [comment p. 12, 13] 73
Response 10 [comment p. 13] 73
Response 11 [comment p. 14, 16] 73
Response 12 [comment p. 14] 73
Response 13 [comment p. 14] 73
Response 14 [comment p. 14, 15] 74
Response 15 [comment p. 15, 16] 74
Response 16 [comment p. 15] 74
Response 17 [comment p. 15] 74
Response 18 [comment p. 16] 75
Response 19 [comment p. 16] 75
Response 20 [comment p. 16] 75
Response 21 [comment p. 18, 21] 75
Response 22 [comment p. 18] 76
Response 23 [comment p. 18, 63] 76
Response 24 [comment p. 19] 76
Response 25 [comment p. 20] 76
Response 26 [comment p. 21] 76
Response 27 [comment p. 21] 77
Response 28 [comment p. 17, 22, 23] 78
Response 29 [comment p. 22] 78
Response 30 [comment p. 23] 79
Response 31 [comment p. 23] 79
Response 32 [comment p. 23] 79
Response 33 [comment p. 23] 80
Response 34 [comment p. 24] 80
Response 35 [comment p. 61-62] 80
Response 36 [comments p. 62] 80

INTRODUCTION

The Montana Department of Agriculture has, after holding hearings as required by MEPA and reviewing the written and oral statements submitted, elected to implement Alternative 9 of the Draft Environmental Impact Statement on Restricting Sales and Use of Endrin. Under this alternative the Department proposes to suspend sales and use of endrin and to cancel endrin registrations when alternatives are registered by the Environmental Protection Agency. This action will be finalized with the implementation of the proposed endrin rule.

The Final Environmental Impact Statement on Restricting Sales and Use of Endrin in Montana consists of the following documents:

I. Draft Environmental Impact Statement (DEIS) on Restricting Sales and Use of Endrin in Montana (issued July 1, 1983, incorporated by reference as part of the Final EIS).

II. Modifications to the Draft Environmental Impact Statement.

III. Addendum:

- A. Written comments received;
- B. Oral testimony presented at public hearings; and
- C. Montana Department of Agriculture responses to comments and testimony.

II. MODIFICATIONS TO THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

The Draft Environmental Impact Statement on Restricting Sales and Use of Endrin in Montana will become a part of the Final Environmental Impact Statement with the following inclusions:

On page 3 of the Draft under Section D. the following statement should be deleted:

> "If for some reason, EPA does not register or grant specific exemptions for effective alternative chemicals, then use of endrin would be allowed in compliance with the additional restrictions discussed in this summary and the DEIS. Pesticide dealers would be required to maintain and submit records for endrin sales as required by the Administrative Rules of Montana (Sec. 4.10.504)."

The following statement should be inserted in place of the deleted material:

> "If during the period of this suspension at least one effective and economical alternative for cutworm control does not remain available, then the department will reconsider this suspension, along with other options available under federal and state law."

On page 55 of the Draft the first full paragraph on that page should be deleted:

> "If chemical alternatives to endrin become unavailable in Montana, the Department will reinstate restricted sales and use of endrin to control cutworms in small grains. In this eventuality, additional restrictions concerning the reporting of endrin sales would be imposed."

The following statement should be inserted in place of the deleted paragraph:

> "If during the period of this suspension at least one effective and economical alternative for cutworm control does not remain available, then the department will reconsider this suspension, along with other options available under federal and state law."

On pages 167-168 of the Draft the proposed rule (Appendix II) should be modified as follows: (deleted material interlined, new material underlined)

PROPOSED NEW RULE - ENDRIN

(1) The right to sell or otherwise distribute, purchase or use endrin for use on small grains to control army and pale western cutworms in the State of Montana, except as provided below, is suspended on the effective date of this rule.

(2) Any existing stock for the registered use stated in No. 1 above purchased by and in the possession of a certified commercial or farm applicator on or before the effective date of this rule, ~~1983,~~ may be applied only under the following conditions:

(a) That such use shall terminate no later than two (2) years from the effective date of this rule;

(b) That all such use shall strictly conform to the label requirements;

(c) That no aerial application shall be made within 1/4 mile, and no ground application shall be made within 1/8 mile of any lake, pond, river, stream, or irrigation system, whether public or private;

(d) That any intended use shall be reported by telephone or in writing by the applicator to th department prior to application, giving the following information:

(i) name of landowner;
(ii) name of applicator;
(iii) where the application will be made;
(iv) when the application will be made;
(v) number of acres to be treated;

In addition, certified commercial applicators shall make those post application reports as required by existing department rules.

(e) That at the end of the two (2) year period, any remaining stock shall be disposed of according to procedures established by the Pesticide Act and its rules, and the Hazardous Waste Act and its rules promulgated by the Department of Health and Environmental Sciences or returned to the manufacturer.

(3) Except as specified in No. 2 above, any other existing stock, including that held by dealers, shall be returned to the manufacturer or disposed of in accordance with ~~(2)--(3)--above,~~ the Pesticide Act and rules, and Hazardous Waste Act and rules no later than 30 days from the effective date of this rule.

(4) At such time as one or more of the alternatives to endrin, (now available through Sec. 18 FIFRA exemptions to registration) become registered by the EPA and the State of Montana, then the registration of endrin for purposes specified above shall be automatically cancelled. Existing stock may be used as specified in No. 2 above, if within the original two year period.

(5) If during the period of this suspension at least one effective and economical alternative for cutworm control does not remain available, ~~under-the-Sec.-18-or-the-registration-process, then-the-sale-and-use-suspension,-or-registration-cancellation, shall-be-automatically-vacated-and-the-right-to-sale-and-use shall-be-reinstated-with-the-same-restrictions-for-use-of existing-stock-as-provided-in-this-rule,-and-such-other restrictions-as-the-department-may-further-promulgate-by-rule.~~ then the department will reconsider this suspension, along with other options available under federal and state law.

(6) ~~For-purposes-of-this-rule,-availability-determinations for-alternatives-shall-be-based-on-the-following:~~

~~(a) Section 18 exemptions, or EPA registrations;~~
~~(b) Efficacy of the compound for cutworm control;~~

~~(7)~~ The cancellation of registration of endrin for grasshopper control, effective 3/31/82, is hereby continued.

(7) ~~(8)~~ The registration of endrin for control of meadow voles in apple orchards is hereby cancelled.

III. ADDENDUM

The Department team extends appreciation to those who reviewed the Draft Environmental Impact Statement on Restricting Sales and Use of Endrin in Montana, and submitted written or oral comments. In the following sections, reproductions of all written comments are presented as received. In addition, a verbatim manuscript of recordings from the hearings conducted at Miles City and Great Falls has been included.

All comments of a substantial nature or those that needed clarification were addressed. These comments have been responded to, bracketed, and a number placed next to the bracket. This number refers to a specific response in the sequentially numbered responses found in Part III. C.. In order to understand each response, readers should compare the submitted comments to the appropriate responses.

III. ADDENDUM

A. WRITTEN COMMENTS RECEIVED.

NATIONAL WILDLIFE FEDERATION
NORTHERN ROCKIES NATURAL RESOURCE CENTER
240 N. Higgins, Missoula, Montana 59801
(406) 721-6705

August 31, 1983

Keith Kelly, Director
Montana Department of Agriculture
Agriculture/Livestock Building
Capitol Station
Helena, Montana 59601

ATTN: Environmental Management Division

Dear Keith:

Enclosed are the comments on the National Wildlife Federation on the Department's Draft Endrin EIS. As the comments note, NWF considers the EIS to be a good first effort, and your staff is to be congratulated on much of the work contained in the document.

As our comments also note, however, several areas of the EIS need substantial work before a final can be released. Given the seriousness with which the Department has approached its first draft EIS, we look forward to seeing additional improvement in the final.

Thank you for the opportunity to comment on the Draft EIS.

Best Regards,

Tom France

THOMAS M. FRANCE, ESQ.

TMF:kc

Enclosure

RECEIVED
SEP 2 '83
MONT STATE DEPT
AGRICULTURE 6201

COMMENTS OF THE NATIONAL WILDLIFE FEDERATION ON THE MONTANA DEPARTMENT OF AGRICULTURE'S DRAFT EIS ON ENDRIN REGISTRATION

INTRODUCTION

Endrin has been a registered insecticide/rodentcide since 1951, and has been used in Montana since 1954. In the spring of 1981, a severe outbreak of army cutworms precipitated the use of Endrin on over 120,000 acres of small grains in eastern Montana. Because of the magnitude of this Endrin application, and the known long-term persistence and toxicity of the substance, the State of Montana developed a program to monitor Endrin residues in soil, wildlife, water, agricultural products and other environmental parameters near treated areas.

The results of the monitoring program revealed Endrin residues in nearly all of the areas that were sampled. Of particular concern were high concentrations of Endrin in various waterfowl and upland game birds. Because the residues exceeded the United States Department of Agriculture's health action levels, warnings were issued by the Montana Department of Fish, Wildlife and Parks in the fall of 1981 concerning the consumption of contaminated birds by hunters.

These warnings, coupled with a severe fish kill at Sunday Creek resulting from a misapplication of Endrin, underscored the potentially serious adverse effects of Endrin. A serious manifestation of this controversy was a substantial decline in hunting and the associated revenue. By late 1981, Endrin had become an environmental issue of local and national significance.

In 1982, the Montana Department of Agriculture (hereinafter referred to as the Department) proposed administrative 1 rules to restrict the use of Endrin. Because of the serious environmental consequences of Endrin and the importance of the pesticide to farmers in eastern Montana, the Department determined that Endrin use should be addressed in an Environmental Impact Statement pursuant to the Montana Environmental Policy Act. The draft version of the impact statement was made available to the public in July 1983, and the following comments are addressed to that document.

I. The draft Environmental Impact Statement reflects a good faith effort by the Department to address the Endrin problem in Montana.

The document produced by the Department is a thorough study of Endrin use and its consequenses in Montana. The reader is impressed with the broad array of information utilized in producing the statement.

The issuance of an impact statement on Endrin is a welcomed signal that the Department recognizes the seriousness of the threat posed by the substance, and of the importance of working within the procedural and substantive guidelines mandated by the Montana Environmental Policy Act.

In particular, the impact statement provides the reader with substantial information on the history of Endrin and the insect pests that it is used to control. The Department

obviously utilized a large body of scientific literature in setting out information on how Endrin affects targeted pests, fish and wildlife and the agricultural economy. The Department's willingness to examine the totality of the affected environment, and explore several courses of action likewise indicates a good faith effort at compliance with our Environmental Policy Act.

II. In the consideration of alternatives, the draft Environmental Impact Statement fails to discuss important alternatives.

A. Several of the alternatives are substantially similar.

The Department initially developed 14 alternative courses of action to deal with Endrin use in Montana. Five of these were rejected outright without detailed analysis. The remaining nine were discussed in detail, culminating in one of them becoming the preferred course of action. On the surface this would satisfy the procedural requirements of the Montana Environmental Policy Act.

2 However, several of the alternatives do not present substantially different courses of action. For example, Alternative 2 restricts uses of Endrin to commercial applicators, while Alternative 4 requires training for commercial (and farm) applicators. Alternatives 6 and 7 both involve using Endrin only when infestations are confirmed by trained individuals. Alternatives 3 and 5 both involve controlling the method of application (buffer zones and prohibit aerial spraying). Thus what appears

2 to be a broad array of alternatives is in fact a more limited selection.

B. The draft Environmental Impact Statement is inadequate under the Montana Environmental Policy Act because it fails to consider two important alternatives.

There is no specific number of alternatives that must be considered in an impact statement. The standards for judging the adequacy of impact statements are those of reasonableness. An impact statement need not consider remote alternative courses of action. Rather, only those alternatives that one might reasonably pursue under the circumstances must be given thorough analysis in the impact statement. Ultimately, most of the alternatives are dismissed. But they are dismissed on the basis of objective and thorough analysis, not because they don't "seem appropriate." This is fundamental to the process of insuring that the decision-makers consider all aspects of a particular problem.

One of the five alternatives that was considered but rejected without detailed analysis was an immediate ban on Endrin. This was done because "of the substantial (adverse) economic impact on small grain growers" that would be imposed by an outright ban of Endrin. [Draft p. 50] The Department further reasoned that because there were no registered alternatives to Endrin, and because of Endrin's proven capabilities in fighting insect pests, "the immediate cancellation of the registration of Endrin was rejected as not being a viable alternative for further study." [Draft p. 51]

3 The outright rejection of such an obvious alternative makes the draft impact statement inadequate under the Montana Environmental Policy Act. While the Department might ultimately reject such a course of action, it must do so only after carefully weighing the costs and benefits.

This is especially important given that many of the Department's own conclusions concerning Endrin support the proposition that the substance should not be used in Montana again. Furthermore, rather than simply declaring economic hardship and dismissing a ban, the Department must develop hard data to support its contention.

While the Department alludes to economic costs of not allowing farmers to use Endrin, no attempt is made to either quantify these costs or to discuss the benefits that might occur if Endrin were immediately banned. For example, an increased number of acres would be available for post-harvest grazing if they were not treated with Endrin. [Draft p. 99] Given that many felt the significant decline in hunting revenue was largely due to a psychological scare induced by an over-reactive media, perhaps a similar psychological boost would occur if Endrin were immediately and unequivocally banned. Such a ban might mitigate losses of previous years that resulted from the Endrin controversy, losses that were estimated at 4-8 million dollars in 1981 alone.

But whatever conclusion the Department might reach, a total ban on Endrin deserves full treatment in the final impact statement.

4 Similarly, the Department did not give full consideration to cultural or biological controls as alternatives to Endrin. Biological controls were rejected as an alternative because "none reliably suppress populations and prevent current season damage." [Draft p. 50] While this contention may be true, it is unsupported. If the Department feels that biological controls are not a viable alternative, the environmental impact statement process mandates a more thorough analysis.

The Department evidently attempted to assess the viability of cultural controls. [Draft pp. 37-38] A cultural control program utilized in Saskatchewan was explained. However, for reasons that are not clear, the Department did not fully consider this an alternative to Endrin.

Given the fact that cultural controls are evidently a viable option to Endrin use in Saskatchewan against the same pests that plague Montana grain growers, the Department must explore this alternative in the final impact statement.

III. The proposed alternative reflects a realization of the dangers associated with continued use of Endrin in Montana.

Of the Alternatives considered in the Draft Environmental Impact Statement on Endrin, the proposed alternative is clearly a step in the right direction. The Department's proposal to eventually cancel Endrin registration in Montana is the only

sensible course of action given the persistence and toxicity of the substance. As documented throughout the draft impact statement, continued use of Endrin will have serious environmental and economic consequences in Montana.

The effectiveness of the proposed action rests upon the registration by the E.P.A. of alternative chemicals. While indications are that these alternatives will be registered, the current proposal does permit the use of Endrin should the alternatives not become available. This unfortunate loophole leaves open the possibility of continued use of Endrin, and its well documented adverse impacts.

5 The Department's proposed action likewise permits the use of existing stocks of Endrin in Montana. While the Department wisely places additional restrictions on the application of Endrin, given the well documented adverse affects caused by the chemical, it does not seem reasonable to allow its continued use in any fashion. Admittedly farmers have already invested in stocks of the chemical. However, any economic consequences suffered by farmers from not being able to use up existing stocks would certainly be borne by the public as a result of additional contamination.

6 Likewise, the Department should close the loophole in its proposed regulations that could permit the use of Endrin to be reinstated. This could be done by getting an absolute time limit for allowing Endrin to be used regardless of whether or not alternative pesticides have been registered. This

would serve as notice to the E.P.A. and expedite the registration of less harmful alternatives, and to the Montana farmer, Endrin use will ultimately be unacceptable.

CONCLUSION

The National Wildlife Federation supports the Department's efforts to address the problem of Endrin in an environmental impact statement. The draft document is generally a good faith effort by the Department to address the problem as required by the Montana Environmental Policy Act.

The Federation urges the Department to include a detailed analysis of the costs and benefits of completely banning Endrin in the final version. The Federation also feels that the Department has an obligation to fully explore biological and cultural control as an alternative to pesticides in general and Endrin in the instant case.

While the proposed alternative is a positive step in restricting the use of Endrin, it does have drawbacks. The Federation believes that given the nature of the problems associated with Endrin, its use should be prohibited entirely while waiting for the registration of alternative pesticides. This is entirely appropriate in that alternatives are now available on a yearly basis through special registrations.

The Montana Environmental Policy Act and its national counterpart require a serious examination of any activity that may have adverse environmental consequences. This process, the

heart of which is the environmental impact statement, is designed to insure that decisions are made that help us preserve our natural environment for future generations. In this case, the impact statement serves as a hindsight document in many respects, cataloguing the price we are paying for two decades of Endrin use. While the Federation supports the efforts of the Department in restricting Endrin, it is unfortunate that its effects could not have been more fully understood before it was ever registered.

It is also impossible to examine the problems posed by extensive pesticide use by looking at one pesticide in a limited geographic area. Endrin is at the very least a regional problem. It is impossible to fully appreciate its environmental consequences without examining the cumulative effects of all of the pesticides previously and currently in use in American agriculture.

Two of the policies of the Montana Environmental Policy Acts are: "To assure for all Montanans safe and healthful surroundings" [MCA § 75-1-103(2)(a)], and to "recognize the national and long range character of environmental problems." [MCA § 75-1-201(1)(b)(v)] Given these legislative mandates, the Federation believes now is an excellent time for the Department to develop an environmental impact statement concerning pesticides and agriculture on a state-wide level.

In particular, it is suggested that the Department compare as an alternative to current policies, the implementation of a statewide Integrated Pest Management program. The costs and benefits of these alternatives should be carefully weighed, as well as the impact that each would have on a full range of environmental parameters. The process would allow the Department, and the public to take a hard look at the environmental hazards posed by pesticides, the problems faced by agriculture in dealing with pests, and would suggest solutions that might be beneficial to all. And most importantly, as was demonstrated by the Endrin impact statement, an all inclusive impact statement would provide information to enable us to make more informed, and more intelligent decisions that affect our future.

VELSICOL CHEMICAL CORPORATION

WORLD HEADQUARTERS
341 EAST OHIO STREET
CHICAGO, ILLINOIS 60611
(312) 670-4500

August 29, 1983

Mr. Keith Kelly, Director
Montana Department of Agriculture
Agriculture/Live Stock Building
Capital Station
Helena, Montana 59620

Attn: EIS

Subject: Endrin
Draft Environmental Impact Statement

Dear Mr. Kelly:

Velsicol Chemical Corporation the basic manufacturer of endrin in the U.S., has reviewed the Montana Draft Environmental Statement. We wish to respectfully submit the following comments for your consideration:

7 1) Endrin was extensively reviewed in an EPA RPAR which concluded in 1979. The current endrin uses were found to be safe and effective to man and environment when used according to the current label directions. The RPAR review found that the benefits outweigh the risks for current labeled endrin uses in small grains, cotton and apple orchards.

8 2) Endrin is a very cost effective treatment for the control of the pale western cutworm. Endrin's performance has been consistent and thereby has prevented an estimated $2,013,000 in crop losses to Montana's small grain growers annually.

9 3) Endrin is the only federally registered insecticide available in Montana for the control of the pale western cutworm. It is Velsicol's position that the endrin registration should be maintained as an alternative to future anticipated Section 18 emergency exemptions. The draft EIS document clearly identifies that the newer materials have never been tested on a large scale and are still unproven under Montana field conditions. Since good pest control management requires a diverse arsenal of pest control products, it is in the interest of the Montana growers to maintain the endrin registration.

10 4) We recommend that the EIS statement include a chemical cost comparison of endrin with the proposed alternatives. A per acre/per season chemical cost comparison will allow the Montana growers to accurately forecast the increased cost of treating their crop.

9 5) The continued registration in Montana, even for emergency use, is necessary to assure that a supply of endrin is available to meet emergency situations. Without a registration, Velsicol cannot guarantee that there would be enough endrin available to meet the needs of the Montana growers, should an emergency arise which would require the use of endrin.

13 Based on the above comments, Velsicol thinks that alternative 9 is much too extreme to qualify as a viable proposal. This alternative will most affect the pocketbooks of the Montana growers in terms of crop losses and increased chemical costs. We think that alternatives 1 through 8 were dismissed too quickly and therefore we request Montana to re-evaluate these alternatives one more time. We recommend that the registration of endrin be maintained until chemical alternatives become federally registered and have been proven under field conditions.

Sincerely,
VELSICOL CHEMICAL CORPORATION

Charles H. Frommer
Director,
Regulatory Affairs

CHF/rj

Montana Grain Growers Association
P.O. Box 1165 • 600 6th Street N.W. • Great Falls, Montana 59403 • 406/761-4596

30 August, 1983

Mr. Keith Kelly, Director
Montana Department of Agriculture
Agriculture/Livestock Building
Capitol Station
Helena, MT. 59620

Attention: EIS

Dear Mr. Kelly:

The Montana Grain Growers Association hereby gives support to the draft Environmental Impact Statement on restricting sales and use of Endrin in Montana.

We find the current alternatives to the chemical Endrin environmentally and economically suitable for producers in Montana.

Sincerely,

Randolph A. Johnson
Executive Vice President

RAJ/mm

JOHN H. LEUTHOLD, JR.
President
Molt

KNUD GROSEN
Vice President
Big Sandy

MARK RASMUSSEN
Secretary
Hogeland

LARRY BARBER
Treasurer
Coffee Creek

MARBLE AND SEIDLITZ
ATTORNEYS AT LAW
WESTLAND BUILDING
P. O. BOX 649
CHESTER, MONTANA 59522

DONALD E. MARBLE
JOHN B. SEIDLITZ, JR.

TELEPHONE
(406) 759-5104

August 31, 1983

Mr. Keith Kelly, Director
Montana Department of Agriculture
Capitol Station
Helena, Montana 59620

Re: DEIS on Restricting Sales and Use of Endrin

Dear Mr. Kelly:

This letter comprises my comments on the DEIS referred to above. I did not receive an actual copy of the DEIS and must rely upon a summary to the DEIS (SDEIS) so please take this into consideration. Please insert this letter in the record so that it will be considered when the decision is made regarding the proposed rule.

B. Alternatives Considered:

According to the SDEIS, fourteen alternatives were considered but five were immediately rejected without any detailed evaluation "because of their failure to directly resolve the endrin problem or because of additional adverse economic impacts. (Emphasis added.)

3 In view of the very dangerous nature of endrin as it is used by farmers in our area, it seems to me very strange that you did not include as an alternative, a complete and immediate ban on the sale and use of endrin. If this alternative was not evaluated because of "additional adverse economic impacts.", it would seem to me that this is not a proper justification for not including this alternative in the DEIS. I do not think that the law of the state of Montana would agree with this deletion, and therefore, the DEIS is seriously deficient. This is especially true when you consider the very serious environmental consequences of the use of endrin as are presented in the SDEIS. Section D(1) of the SDEIS presents a discussion of the environmental problems created by the use of endrin and also by the use of available alternatives. The discussion and evaluation appears more to support a total ban rather than a partial ban as presented in the proposed new rule.

The analysis, presented in the SDEIS and presumably in the DEIS accepts without any discussion the premise that endrin application by ground or air is an effective means of controlling army or cut worms. Perhaps it is an effective way in the lab, or under ideal test conditions, but I am by no means convinced that it is effective as actually applied by the small grain farmers

11 in the field. It is my opinion that in the actual situation, often the spray is applied after the worms have done most of their damage, and that even without the spraying of endrin, they would disappear or do very little additional damage. In other words, in my opinion, the only thing that is often accomplished by the application of endrin on the farm is serious environmental damage. The DEIS does not present any evaluation or discussion on this point, and I believe is therefore deficient as regards compliance with the law of the state of Montana regarding environmental impact statements.

12 It should be noted that in Canada the use of endrin is apparently not allowed. Migratory waterfowl entering the United

13 States from Canada is essentially free of endrin. Therefore, when waterfowl are taken and tested for endrin in our area, if there is any endrin is found, it is because of endrin applied in our area. This was the case recently in our Liberty County. Thus it is clear, that the endrin residues are the result of spraying in our immediate area and not from any other area. It is not pleasant to realize that the taking and consumption of ducks from our area exposes one to a risk of ingestion of endrin. The same is true of antelope that migrate across the wheat fields in the fall. The proposed rule would not ban immediately the use of endrin and if adopted, we would not be guaranteed of endrin free waterfowl and antelope. No discussion was presented in the SDEIS about some of these aspects.

5 The DEIS does not apparently discuss in any detail or present in any detail the amount of endrin presently stored on farms or by dealers in the state. It seems essential to me that this information most necessary if the department and the public is to be allowed to evaluate the effect of a proposed rule that would allow existing stores to be used with no control from the department for a period of two years. How can we know the effect of the proposed rule on this point, without knowing the amount of endrin stored. The information should be available to the department and should be assembled and presented to the public in a revised DEIS. Deletion of this information represents a fatal defect to the DEIS that can only be cured by a revised DEIS.

14 Another aspect of the application of endrin was not presented in the DEIS. This is the fact that aerial application of endrin means that a very large portion of the endrin is injected into the atmosphere by the shedding vortices of the wings. The amount of spray that is injected into the atmosphere by this means has been estimated to be in the range of 10% to 50"

14 depending upon the type of aircraft utilized. The DEIS should be revised to include information on this problem so that the department decision makers and the public are well informed about the great amounts of endrin that are injected into the atmosphere by vortices. This is a very serious problem that needs to be addressed in a revised DEIS.

6 I am very concerned about the concept of a partial ban as is
presented in the proposed new rule. Endrin is now
"outlawed" for everything execept army worms and cut worms.
15 But if endrin can be stored and used for these worms, it is
going to be difficult if not impossible to ensure that endrin is
not used for grasshoppers, or whatever pest that may appear.
5 The people who purchased large stores of endrin in anticipation
of a ban will most likely use it, one way or another, unless
there is a total and immediate ban. It should be clear that
only a total and immediate ban will ensure that endrin use is
ended. The DEIS should have addressed this aspect.

16 I submit that while the DEIS environmental evaluation would support a total and immediate ban on the use of endrin, the proposed rule requires only reporting of the use of endrin from existing stores instead of the consent of the department before use. Reporting probably accomplishes nothing except for the accumulation of paper. Requiring the prior written consent of the department would inject an element of control over application that is clearly called for in the DEIS.

In conclusion, I submit the following:

1. The DEIS is inadequate for the reasons cited above.

2. The adoption of the proposed new rule on the use and sale of endrin will provide little or no relief to our area and may actually encourage increased use of endrin from stores from other areas or of endrin brought into the state. Only a total and immediate ban will provide the relief clearly called for by the evaluation of the DEIS.

3. The department should revise the DEIS and present it to the public for consideration. There would seem to me to be no problem in some additional delay since endrin use for anything besides worms is illegal, and we should not see any army or cut worms until spring, if at all.

4. The revised DEIS should consider in detail an alternative of a total and immediate ban on the use of endrin.

17 5. The revised DEIS requested should be widely circulated and should be made more available. I was given no notice of the

17 hearing despite the fact that I had expressed by concern to the department about the problem in the past. Also, a copy of the DEIS was not available to the best of my information in our county and our county was one of the areas most damaged by the last use of endrin.

Thank you for your consideration, and

Very truly yours,

Donald R. Marble

DM/ps

Montana Audubon Council
P O Box 649 Chester, Montana 59522

August 31, 1983

Keith Kelly, Director
Department of Agriculture
Capitol Station
Helena, Montana 59620

RE: Comments on the Draft EIS on Endrin

Dear Mr. Kelly,

11, 18 The Montana Audubon Council was greatly disturbed at the application of endrin to control cutworms on small grain farms in central and eastern Montana. As many of our members know, toxic substances often times are poorly applied and often at the wrong time (after the fact). We are concerned about these applications of endrin which destroy many other non-target animals and contaminate soil, waterways and vegetation.

We are pleased that the Department of Agriculture has recognized the hazards of endrin and have compiled the draft EIS. Of the alternatives given, Alternative 9 is the most favorable but we still are alarmed and concerned for the alternative chemicals being developed. Chlorpyrifos and permethrim, the new alternative chemicals are toxic to birds, also. Once again the waterfowl hunter and birdwatcher will be effected. 19 All the emphasis to date indicate that no work has been done to seek a biological control for cutworms. The chemical companies seem to be running the show.

3, 4, 15, 20 Also, the SDEIS never considered total outright banning of endrin. There are farms in north central Montana which have stockpiled endrin and will be able to use this poison with all its consequences for two years, perhaps beyond. Who says the farmer will limit himself to killing only cutworms with endrin? With surpluses in his shed, he may use it on the infestation of grasshoppers we are having now (?). We support total banning of endrin within the state immediately. We propose that the Department make available insurance for cutworm losses, the same as hail insurance, thereby eliminating the use of chemicals till at such times viable biological controls can be found. The environment would be better protected and the farmer of small grains will continue to sustain an income he is accustomed to.

Page Two
Kelly
Comments on the Draft EIS on Endrin

3, 5, 20 Chemical control with such detrimental effects such as endrin should not be tolerated, even for another two years. Alternatives such as proposed which can kill birds, etc. should not be tolerated. We request that the Department consider total stoppage of sale and use of endrin in Montana now and that cutworm (other pest ?) insurance be available.

Please include this letter in the record.

Sincerely,

Harriet Marble

Harriet Marble, President

RECEIVED

Board of Directors
Rosebud Audubon Society
P.O. Box [illegible]
Miles City, MT 59301

30 August 1983

Montana Department of Agriculture
Agriculture/Livestock Building
Capitol Station
[illegible]

Dear Sirs:

The Rosebud Audubon Society is a chapter of the National Audubon Society, with its membership largely in southeastern Montana. As such we thank the Montana Department of Agriculture for holding hearings in Miles City. Since none of our members could attend the hearings during working hours, we are submitting this letter as our official statement.

We agree that Alternative 9, the Proposed Action, of the Draft Environmental Impact Statement on Restricting Sales and Use of Endrin in Montana is the most acceptable and environmentally sound of the alternatives. We encourage the Department to discontinue the use of Endrin as soon as possible. However, we also caution you to not introduce the use of other potentially dangerous chemicals until they are proven safe; nobody wants to see another crisis situation develop from the use of another chemical pesticide.

For the Board of Directors
MW Rogers

DEPARTMENT OF STATE LANDS

TED SCHWINDEN GOVERNOR

STATE OF MONTANA

(406) 449-2074
(406) 449-4560 RECLAMATION DIVISION

August 18, 1983

Montana Department of Agriculture
% Mr. Keith Kelly, Director
Agriculture/Livestock Building
Capitol Station
Helena, MT 59620

RE: Comments on Draft E.I.S.

Dear Director Kelly:

Thank you for the opportunity to comment on the Draft Environmental Impact Statement Restricting the Sales and Use of Endrin in Montana. Pat Howe, Land Use Specialist for the Department prepared the following comments:

1) The presentation of the toxicity of Endrin and a review of the literature of its ability to enter and concentrate in the food chain is well done, and warrants the banning of the pesticide Endrin's use in Montana.

2) The information on Endrin action in water on Page 13 may be a bit misleading. Chemically, Endrin is a chlorinated hydrocarbon and is soluble in fats and oils. Water quality data do not accurately reflect the amount of pesticide in the system because of this factor and usually only show trace amounts of the toxin. The pesticide would immediately be available to the algae, aquatic invertebrates and fish in any stream, lake or pond because living cells are comprised of fats and oils. Once in the food chain, it is then transferred from prey to predator. I suggest the following PHD thesis on this action of chlorinated hydrocarbons:

28 The Effects of DDT on Trout Creek, unpublished PHD thesis by Dr. Larry Sonstelie, the University of Utah, 1969

3) The data in Table 2 (Page 25-29) indicate that insect outbreaks have increased in the thirty years from 1940-1983 when 8 major or moderate outbreaks and 9 light outbreaks of Pale Western Cutworm and at least 11 major to moderate outbreaks of the Army Cutworm occurred and 6 major to moderate and 8 light outbreaks of the Pale Western Cutworm and 4 recorded major outbreaks of the Army Cutworm occurred the preceeding forty years. Endrin was introduced with the advent of World War II. The data may suggest:

a. land use patterns changed in the last three decades as apposed to the preceeding four

b. that weather patterns changed over this period and have influenced cutworm outbreaks, or a combination of the two

21 At any rate, the data do not indicate that Endrin has been effective to control outbreaks of either species of cutworm, despite the fact it has been used as a "standard" in laboratory evaluation of pesticides. Pesticides used in the laboratory may be reagent grade as opposed to the cheaper, more impure commercial grade substances used in the field, and results never accurately reflect field conditions. The data suggests this.

4, 22 4) The Department of Agriculture's rejection of Alternative 3, Page 50 (Use of Biological Controls) is well taken only because the preferred alternative is to ban Endrin. The work of Dr. Cooley on land use and management practices, of Cook in the development of predictive models of cutworm outbreaks and weather factors, and Strickland on natural parasites and predators should have been given more credence. Granted that these methods take time, it is important to acknowledge their work (as was very well done!) and possibly recommend their re-establishment. The shift away from these "old" controls with the cheap availability of Endrin after World War II may have influenced the increase of cutworm outbreaks since that time.

The Department of Agriculture should incorporate an evaluation of these methods in its pesticide evaluation program.

5) I suggest that support and recommendation be given to initiate research on the field ecology of both cutworm species in relation to current land use practices and re-evaluate the work of Dr. Cooley and others mentioned in the EIS text and referred to in Paragraph 4 of this letter.

23 6) During the pesticide sampling survey in 1981, why was human mother's milk, human fat, cow's milk or fat from domestic cattle in the affected area not examined for Endrin residues? This would have been consistant with MEPA, which mandates projection of impacts on the human environment.

Sincerely,

Reed Lommen, Bureau Chief
Land Management Bureau
Land Administration Division

RL/jd

cc: Kelly Blake, Lands Division Administrator

MONTANA
DEPARTMENT OF
FISH, WILDLIFE AND PARKS

Helena, MT 59260
August 29, 1983

Mr. Keith Kelly, Director
Department of Agriculture
Helena, MT 59620

Dear Keith:

The Montana Department of Fish, Wildlife & Parks has reviewed the "Draft Environmental Impact Statement on Restricting Sales and Use of Endrin in Montana." In response, we are submitting this letter containing our position on a preferred alternative, comments on material contained in the draft EIS and suggested minor corrections to the statement.

We agree with the Montana Department of Agriculture (MDA) that proposed Alternative 1 (No action) is unacceptable, and that Alternatives 2-8 do not sufficiently reduce the potential adverse environmental impacts of endrin. We support Alternative 9, with the following modifications:

5 A. We agree that the further distribution and sales of endrin should be suspended, but that existing stocks should not be used and should be recalled and disposed of in an environmentally safe manner.

B. We agree with suspending interstate shipment of endrin into Montana for sale or use in the state. Our monitoring of endrin residues in migratory birds, including waterfowl, indicates some endrin contamination is from sources outside of Montana. Consequently, we would recommend against its use anywhere.

C. We agree with the cancellation of the registration of endrin for grasshopper control, and with the cancellation of endrin for meadow vole control in apple orchards. The potential for unavoidable exposures of nontarget wildlife to endrin and its potential hazards will thereby be reduced.

3 D. We support the MDA's requests for specific exemptions or state registrations for alternative cutworm control insecticides, like chlorpyrifos, fenvalerate and permethrin that are less hazardous. Documentation in the DEIS indicates that continued registration of endrin for cutworm control in small grains in Montana, even for emergency outbreaks, is unnecessary.

We are presently reviewing a number of specific comments on the EIS and will send them to you in a few days.

Sincerely,

Jim
James W. Flynn
Director

JWF/JAP/sa

montana
LWV

August 30, 1983

To: Montana Department of Agriculture

From: League of Women Voters of Montana

Re: DEIS on Restricting Sales and Use of Endrin in Montana

The League of Women Voters of Montana appreciates this opportunity to discuss the use of toxic genetic chemicals and to give the perspective of the League to this decision making process.

League national position revolves around maintaining an environment that is beneficial to life. In this pursuit the focus between that concern and the recognition of the private rights of individuals sometimes becomes unclear. In our desire for environmental quality we find the impetus to remain involved, to conduct the necessary studies and to continue to comment in what is hoped to be a meaningful manner.

The Department is to be commended on a well done document. Taking on the task of addressing the use of Endrin, even though your recommendation is for the use of other chemicals, is a demonstration of responsibility. However, the use of any chemical that changes the way that a life system responds to the basic processes of life I.E. the way DNA is combined, the way RNA is combined that leads to mutagenic and carcinogenic changes in life forms should be discouraged. Environmentally compatible farming practices can lead to land that is so fit, so in balance nutient wise that pests are not attracted to it in the first place. Plants can grow in soil with a dynamic life force into a vigor that is not suseptible to attack. This kind of farming practice should be offered in an educational way to offset the effects of the salesman of quick artificial methods of agriculture that are leading to the depletion of topsoil and erosion and loss of productivity associated with lazy methods, including infestations of insects and weeds.

Natural amendments such as rock phosphate, humates, and crop and livestock residues maintain fertility and add a water holding capacity to soils. This good practice as well as the growing of clover to disc into the topsoil would provide nutients to grow grain that would not be suseptible to the cutworm pests, army and western pale.

24 The occassional outbreak could be treated with Science Products biological Bacillus Thurigentis, Berliner, a liquid concentrate or Dipel a dry form concentrate. This biological is specific to caterpillars acting to paralyze the intestine and cause starvation in a few days.

Having a firm grasp on these essentials would benefit the agricultural community and take us firm strides toward the water quality, and productivity that is sought as a national as well as state goal of the League.

Diane Young, President
League of Women Voters of Montana
3300 7th St. N. E., Great Falls, Montana
59404

Barbara D. Rhodes
Barbara D. Rhodes, Natural Resources
League of Women Voters of Montana
Route 1, Box 1945, Libby, Montana
59923

ROSEBUD-TREASURE WILDLIFE ASSOCIATION

Mitch Howe, Sec.-Treas.
356-2733
FORSYTH, MT 59327

August 26, 19

Director, Dept. of Agriculture
Capitol Station, Helena, MT.
59620

Ironically, our surplus of wheat problems in this country have created a greater economic impact to farmers than most pest problems. Acreage, if lost to cutworms, could be incorpora into the PIK program, easing the economic hardship to individual farmer

However, I feel that research shoul continue on all aspects of pesticide use. It is apparent there is promis new insecticides emerging to replace Endrin. I favor alternative No. 9 as outlined in the E.I.S., the suspensi of sales of Endrin in Montana whe the registration of other safe and effective materials is complete.

Thank you!

Ellen E. Rice
Past President

STATE OF COLORADO
Richard D. Lamm, Governor
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE
Jack R. Grieb, Director
6060 Broadway
Denver, Colorado 80216 (297-1192)

August 26, 1983

Mr. Keith Kelly, Director
Montana Department of Agriculture
Agriculture/Livestock Building
Capitol Station
Helena, MT 59620

Dear Mr. Kelly:

Thank you for the opportunity to respond to the Draft Environmental Impact Statement on Restricting Sales and Use of Endrin in Montana.

We in Colorado are, of course, greatly concerned over our wildlife resources being subjected to various environmental problems including those caused by human activities. Part of our state is in the Central and part in the Pacific Flyway. Montana, of course, is a waterfowl production area important to us and many other states. In terms of these "community-owned and managed" waterfowl, the various species are periodically limited, population- and production-wise, by drought and weather-related factors and to a more sustained and building degree annually by the effects of agriculture. Included in the latter are increasing losses of habitat via agricultural encroachment as well as forcing waterfowl and predators together in remaining habitat; thus, increasing predation and decreasing the ability for waterfowl to sustain their population levels.

Also associated with agriculture are the effects of various pesticides such as endrin on the waterfowl populations in terms of direct mortality to adults and young, as well as those relating to decreases in actual breeding potential of adults, egg production, hatching rates, and survival of young. Further, contamination of these species, whether in low or high population levels, is and should continue to be of concern to all, and especially the hunter-consumer, as it relates to human health.

Thus, our response to your Draft Environmental Impact Statement is that we basically agree with your Alternative 9 (proposed action) with some further requests for action. Alternative 9 is presented in your DEIS as follows:

> "Suspend sales and use of endrin--cancel endrin registrations when alternatives are registered by the Environmental Protection Agency."

DEPARTMENT OF NATURAL RESOURCES, Hamlet J. Barry, Acting Director • WILDLIFE COMMISSION, Richard L. Divelbiss, Chairman
James C. Kennedy, Vice Chairman • Wilbur L. Redden, Secretary • Donald A. Fernandez, Member • Michael K. Higbee, Member
[illegible] W. S. [illegible], Member • James T. Smith, Member • Jean K. Tool, Member

---

25 As presented here, and as described later in the draft, we are not sure what is actually meant. First implications are that suspension of sales and use of endrin would take effect immediately upon adoption of the program. However, statements made later imply existing stocks could be used. Then mentioned is the two-year period in which other chemicals would be tested and, if suitable, registration thereof would be accomplished and endrin registration would be cancelled. We partially agree with this if intensive effort is made toward finding, testing, and registration of suitable alternatives; but we cannot agree with going back to endrin after two years as stated in the draft.

3,5,6 We suggest a more positive approach in that all endrin sales and use are indeed suspended as of the date of implementation of this program. Also, that endrin registration should be cancelled because of all its ill effects and that intensive efforts are made to register alternative chemicals that are suitable but safer for use in the environment in regard to the wildlife resources and to overall human health. As we understand the situation, there are other alternatives available now, and possibly more coming out. We suggest an intensive and continuous search for suitable alternatives without a clause which would limit the period of such efforts to two years with a return to endrin.

Again, thank you for giving us an opportunity to respond to this important issue.

Sincerely,

Jack R. Grieb

Jack R. Grieb
Director

JRG/HDF/ag

cc: James W. Flynn, Director
Montana Game & Fish Dept.

August 23, 1983

Montana Department of Agriculture
Agriculture/Livestock Building
Capitol Station
Helena, Mt. 59620

Attn: EIS

Gentlemen,

In regards to the current hearings on restricting the sales and use of endrin in the State of Montana, I feel that the best alternative regarding this is #9 on the Environmental Impact Statement--Suspend Sales and Use of Endrin.

Obviously, the use of chemicals has a major impact on the agricultural industry in the world today, but I continue to be amazed at the promiscuous use of many of these chemicals when they have known major effects on the environment and, ultimately, man!

To my knowledge, endrin has been proven to be very toxic to many animal species. Apparently some studies were performed on domestic livestock, but the results of these studies are of questionable value. Unfortunately, continued studies and media publicity could be economically devastating for many people. Certain groups of people feel that what we don't know, won't hurt us. Is there no mechanism for establishment of a council or commission to act quickly and responsively in keeping up with the current state of the art regarding use and types of chemicals to be used?

Some of the insecticides that are currently recommended for use instead of endrin have improved properties (ie. shorter residual detection in the soil, decreased waiting time for grazing after application, etc.), but, many effects of these endrin substitutes have not been fully proven or tested. So it could be a case of the cure being worse than the disease.

The initial endrin scare in Montana was two years ago, and still the problem is being discussed with no definite resolutions. That is why I feel that some group that is responsive and can act quickly and has the power to act could oversee the sales and use of agricultural chemicals in Montana. Some of these environmental problems cannot be lost in bureaucratic red tape when their effects could be devastating to all mankind.

Yours truly,
John C. Taylor
John C. Taylor
32 Balsam Drive
Miles City, Mt. 59301

Defenders
OF WILDLIFE

August 31, 1983

Mr. Keith Kelly, Director
Montana Department of Agriculture
Helena, Montana 59620

Dear Mr. Kelly,

Please consider the following comments regarding the Montana Department of Agriculture's Draft Environmental Impact Statement on restricting sales and use of endrin in Montana.

Given that this was the Department of Agriculture's first experience with writing an environmental impact statement regarding the use of pesticides, it marks a good preliminary effort. There were several areas that needed more detailed discussion, as I'll point out in my comments, but most of the major issues were covered.

3 A primary criticism would be that the DEIS failed to consider as an alternative the outright ban of endrin, without waiting for Environmental Protection Agency action. This would certainly seem to be a viable alternative, given the problems caused by the endrin applications. The public deserves to know what the tradeoffs of such an alternative might be.

3, 26 The section and discussion regarding the economic impacts of the various alternati was particularly weak. No supporting evidence was offered documenting the real economic costs of the various alternatives. Nowhere were the values of recreation and tourism weighed against the values of higher wheat production. Given that the government has undertaken a significant program to reduce our wheat supply, one wonders why surplus production is given such strong value.

4, 21, 27 It was also disappointing that additional solutions to the problem of endrin use in Montana weren't brought out in the document. The potential for using integrated pest management to resolve the problem wasn't discussed, nor was the idea of a crop insurance program dealt with adequately.

5 Finally, the discussion concerning what to do with existing supplies of endrin was altogether inadequate. No data was presented detailing the level of economic hardship that would be caused by an outright cancellation, and nowhere were the continued risks of using endrin from existing stocks for the next two years weighed against the benefits of continued use. Given the lack of information, we would strongly urge that existing stocks of endrin not be exempted from a cancellation.

With the exception of the above-mentioned problems, Defenders of Wildlife supports the Department of Agriculture's preferred alternative, which would suspend sale and use of endrin and cancel registrations when the EPA registers alternatives.

Sincerely,
Hank Fischer
Hank Fischer

HANK FISCHER, Montana Rep.
Defenders of Wildlife
1534 Helena Ave.
Missoula, MT 59801

1244 NINETEENTH STREET, NW • WASHINGTON, DC 20036 • (202) 659-9510

Montana State University
Bozeman, Montana 59717

Office of the Dean
Office of the Director

Telephone (406) 994-3681

August 16, 1983

Mr. Keith Kelly
State Department of Agriculture
Scott Hart Building, 303 Roberts
Helena, MT 59620

Dear Keith:

This is in response to your letter of July 7 requesting input on the Draft EIS on Restricting Sales and Use of Endrin in Montana.

I have asked members of our faculty knowledgeable in this area to review this material. It is our consensus that we support deregulation simply because there are other satisfactory compounds for growers to use. Therefore, we have no particular problem with the Draft EIS statement on this subject. If you have any questions on this, please let me know.

Sincerely,

Jim

James R. Welsh
Dean and Director

JRW:sak
630/#41

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
220 West Prospect
Fort Collins, CO 80526

August 25, 1983

Keith Kelly, Director
Montana Department of Agriculture
Agricultural/Livestock Building
Capitol Station
Helena, MT 59620

ATTN: EIS

Dear Mr. Kelly:

This responds to your request for my review and comments on the Draft Environmental Impact Statement on Restricting Sales and Use of Endrin in Montana.

Specific Comments:

Page 68 Wildlife Species of Special Concern

Paragraph 2 - Migrating whooping cranes were observed in southeastern Montana wheat fields in spring 1981. (Brewster, S., 1981. U.S. Fish and Wildlife Service, Billings, MT. Personal Communication).

28 Paragraph 4 - Peregrines were extirpated from large areas of the west by pesticides. They are now being restored at great expense by propagating them in captivity and releasing them on former range (Burnham, W. A., J. Craig, J. H. Enderson, and W. R. Heinrich. 1978. Artificial increase in reproduction of wild peregrine falcons. J. Wildl. Manage. 42:625-628), including eastern Montana. This problem was also reported by Enderson et al. (1982. Eggshell thinning and organochlorine residues in Rocky Mountain peregrines Falco peregrinus and their prey. The Canadian Field-Naturalist 96:255-264).

Paragraph 5 - Bald eagles also frequently feed on dead and dying waterfowl (Pattee, O.H. and S. K. Henne. 1983. Bald eagles and waterfowl: the lead shot connection. In press. Trans. 48th N. Am. Wildl. and Nat. Res. Conf.).

29 Page 94 Terrestrial Wildlife

Paragraph 1 - It should be stated that it is unlawful to kill migratory birds and other protected wildlife by any means, including agricultural pesticides, except in legal hunting seasons by designated methods. In the last sentence it is stated that acute mortality of larger mammals is "unlikely." To the contrary, cattle, deer, and other large mammals have been killed by endrin applications to winter wheat for cutworm control (Aldrich, F. 1968. Bovine endrin poisoning. Quarterly Report Community Pesticide Study, Greeley, CO; Hepworth, W. and G. Roby. 1968. Wildlife and livestock losses in Crook County associated with endrin spraying to control army cutworms on winter wheat. Mimeo. 5pp. WY Game and Fish Dept., Laramie).

In my study of endrin-sprayed wheat fields in Colorado, domestic sheep that grazed on the wheat accidentally, or in ignorance by the wheat grower, died of endrin poisoning.

28 Paragraph 2 - Acute secondary poisoning of predators, scavengers, and raptors, including bald eagles, by endrin has frequently been reported:

a. Blus, L. J., et al. 1983. Effects on wildlife from use of endrin in Washington State orchards. In press. Trans. 48th N. Am. Wildl. and Nat. Res. Conf.

b. Harris, V. T. and P. H. Eschmeyer. (eds.) 1976. Secondary poisoning proven for endrin. pp. 26-27 in Sport Fish & Wildl. Research, 1974-75. U.S. Fish & Wildl. Serv., Wash., D.C.

c. Mendelssohn, H. 1972. Effect of toxic chemicals on bird life. Int. Council for Bird Preserv. Bull., 1972:75-104.

d. Stickel, W. H., W. L. Reichel, and D. L. Hughes. 1979. Endrin in birds: lethal residues and secondary poisoning. pp. 397-406 in W. B. Deichmann (ed.) Toxicology and Occupational Medicine. Elsevier, N.Y. 480 pp.

Page 95 Terrestrial Wildlife
Last paragraph in this section (first paragraph on page 95) - The discussion of food chain transfer should cite this paper: Gregory, W. W. Jr., J. K. Reed, and L. G. Webb. 1971. Bioaccumulation of endrin from natural food sources in the eastern bobwhite quail. Proc. 25th Ann. Conf. SE Assoc. Game & Fish Comm.:156-164.

Page 95 Aquatic and Semiaquatic Wildlife
Paragraph 2 - Endrin is highly toxic to amphibians. (Scott, T. G. and P. H. Eschmeyer. (eds.) 1980. Endrin and toxaphene are highly toxic to amphibians. p. 50 in Fish & Wildl. Research, 1979. U.S. Fish & Wildl. Serv., Wash., D.C.).

Page 96 Endangered Wildlife
Paragraph 2 - Migrating whooping cranes were observed in SE MT wheat fields in spring 1981 (Brewster, W. 1981. U.S. Fish & Wildlife Serv., Billings, MT. Personal Communication).

30 Page 123 Alternative 9
Paragraph 1 - It is stated that other alternatives were not available. Other chemicals have been available and registered for other uses. The problem is that no one took action to register them for use on cutworms in wheat. In Canada, where conditions are very similar to Montana, they stopped using endrin several years ago and have registered chlorpyrifos for use as an effective alternative (McDonald, S. 1981. Evaluation of organophosphorus and pyrethroid insecticides for control of the pale western cutworm. J. Econ. Entomol. 74:45-48).

31 Page 124 Table 39.
There is a serious error in this table. The toxicity of endrin to ring-necked pheasants is not 53.4 mg/kg but it is 1.78 mg/kg (Tucker, R. K. and D. G. Crabtree. 1970. Handbook of toxicity of Pesticides to Wildlife. USDI, Fish and Wildl. Serv., Resource Public. No. 84. 131 pp). The lethal

---

toxicity of endrin to wild pheasants tracked by telemetry was 1.7 mg/kg (p. 56 in Bureau of Sport Fisheries and Wildlife. 1968. Wildlife Research. Problems, programs, progress, 1968. U.S. Dept. Interior Resource Public. No. 85. U.S. Gov't Print. Office, Wash., D.C. 118 pp.).

Page 127 Agricultural Production
Same comment as for Page 123.

General Comments:

I support Alternative 9, but believe that all uses of endrin involving
application to the landscape should be discontinued immediately. Effective
alternatives to endrin could have come into use many years ago if wheat
growers, aerial applicators, and pesticide distributors had supported them.
It does not make much sense to spread such a hazardous material as endrin on
the land, thus endangering fish, wildlife, and human health, to produce
surplus wheat. In my experience in Colorado, I investigated 22 sprayed
and 7 unsprayed wheat fields (with permission of the growers). Part
of my study was to collect dead pale western cutworms for chemical analysis
to measure endrin residue concentrations. Although dead cutworms are easy
to find, when present in sprayed fields, most of the fields I investigated
had very few or no cutworms. In other words, most of the spraying that was
done was unnecessary. The result was the needless poisoning and contamination
of wildlife, livestock, and beneficial insects. If such extremely hazardous
materials as endrin are to be spread on the land, there should be more
control over their use and more documentation of actual need and economic
benefit. Also, the rights of people whose health or livelihood are harmed
by the mass spraying of endrin should be considered. This Draft EIS states
30 repeatedly that "effective alternatives are not available." Yet, just north
of Montana in Canada where the cutworm-wheat problem is identical, use of
endrin was stopped many years ago and chlorpyrifos was registered and used
isntead (McDonald, S. 1981. J. Econ. Entomol. 74:45-48). Also, there are
32 other much safer chemicals, such as acephate and permethrin, that out-perform
endrin in controlling cutworms (DePew, L. J. 1982. J. Kansas Entomol.
Soc. 55:339-342). There is the additional problem of distinguishing between
33 army cutworms and pale western cutworms. Some entomologists in Montana
(at MSU) believe that nearly all the cutworm infestations in 1981 were
army cutworms. Of course, there are several other registered pesticides,
including trichlorfon which is very safe for nontarget species, for control
of army cutworms.

Sincerely yours,

Lowell C McEwen

Lowell C. McEwen

[illegible]

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
1860 LINCOLN STREET
DENVER, COLORADO 80295

AUG 26 1983
REF: 8MO

Keith Kelly, Director
Montana Department of Agriculture
Agriculture/Livestock Building
Capitol Station
Helena, Montana 59620

Dear Mr. Kelly:

We have completed our review of your agency's "Draft Environmental Impact Statement on Restricting Sales and Use of Endrin in Montana." The draft EIS is well organized and presents an adequate array of alternative solutions to this difficult problem.

We would emphasize that the selected alternative, as pointed out in the EIS, also has certain draw-backs. The substitute chemicals have not as yet received EPA certification for use on small grains and both have certain problems associated with their use. Both do, however, appear to be less persistent than endrin.

34 We would suggest that the final EIS could be strengthened by additional discussion of the criteria used to select which of the substitutes, chlorpyrifos or permethrin, would be used in differing situations. There are some differences between these two chemicals in terms of toxicity and it would be beneficial to know when each might be used.

If you have any questions, please call Ms. Lee Shanklin in our Montana Office in Helena at 449-5414.

Sincerely yours,

John G. Welles
Regional Administrator

STATE OF CALIFORNIA—RESOURCES AGENCY
George Deukmejian, Governor
DEPARTMENT OF FISH AND GAME
1416 Ninth Street
Sacramento, California 95814
(916) 445-3531

August 17, 1983

Mr. Keith Kelly, Director
Montana Department of Agriculture
Agriculture/Livestock Building
Capitol Station
Helena, Montana 59620
Attention: EIS

Dear Director Kelly:

Thank you for the opportunity to comment on your DEIS describing proposed restrictions on the sale and use of endrin. We concur with your choice of Alternative 9. This alternative would implement administrative rules suspending the sale and use of endrin for control of cutworms in small grains, and would provide for other restrictions.

In 1981 and again in 1982, many Californians became concerned when it was learned that endrin residues were detected in a large portion of Montana's waterfowl. This concern was raised since some of these birds could be expected to winter in California. A reduction in endrin contamination of this shared resource will benefit both of our states.

We support your proposed action.

Sincerely,

H D. Carper
Director

cc: Director, Montana Department of Fish, Wildlife, and Parks
Director, California Department of Food and Agriculture

DEPARTMENT OF AGRICULTURE
ENVIRONMENTAL MANAGEMENT DIVISION

TED SCHWINDEN, GOVERNOR
STATE OF MONTANA
[illegible]

AGRICULTURE LIVESTOCK BUILDING
SIXTH AND ROBERTS
CAPITOL STATION
HELENA, MONTANA 59620 0205

July 19, 1983

MEMORANDUM

TO: Keith Kelly
Director

FROM: Darrell Granbois *DG.*
Pesticide Specialist

RE: Draft EIS

I have read and evaluated the Draft EIS on Restricting sales and use of Endrin in Montana. The Impact Statement was well prepared and easy to read, the authors should be commended. I fully support alternative 9 as the most appropriate disposition in the current Endrin issue. It is unfortunate that the data base from the 1983 project to study the environmental impacts of Endrin and Lorsban when applied to small grains for cutworm control, were not available prior to the printing of this draft. The information from that study could have make a significant contribution to this statement.

Although this impact statement may resolve one pressing issue concerning Montana agriculture, it is still important to remember that this is no time to rest. I feel it is important to constantly monitor the use of pesticides, continue the search for reasonable alternatives to pesticides, and advocate an integrated approach to pest management.

emr

The Big Sky Country

MONTANA STATE HOUSE OF REPRESENTATIVES

REPRESENTATIVE BERNIE SWIFT
HOUSE DISTRICT 91
HELENA ADDRESS:
CAPITOL STATION
HELENA, MONTANA 59620
HOME ADDRESS:
SE 206 ROSE LANE
HAMILTON, MONTANA 59840

COMMITTEES:
FISH, WILDLIFE & PARKS
HUMAN SERVICES

Hamilton, Mt.

July 27, 1983

Mr. Keith Kelly, Director
Dept. of Agriculture
Agriculture/Livestock Bldg.
Capital Station
Helena, Mt. 59620

Dear Director Kelly:

Thank you for forwarding the Summary of the Draft Environmental Impact Statement on restricting sales and use of Endrin in Montana to me, on July 7.

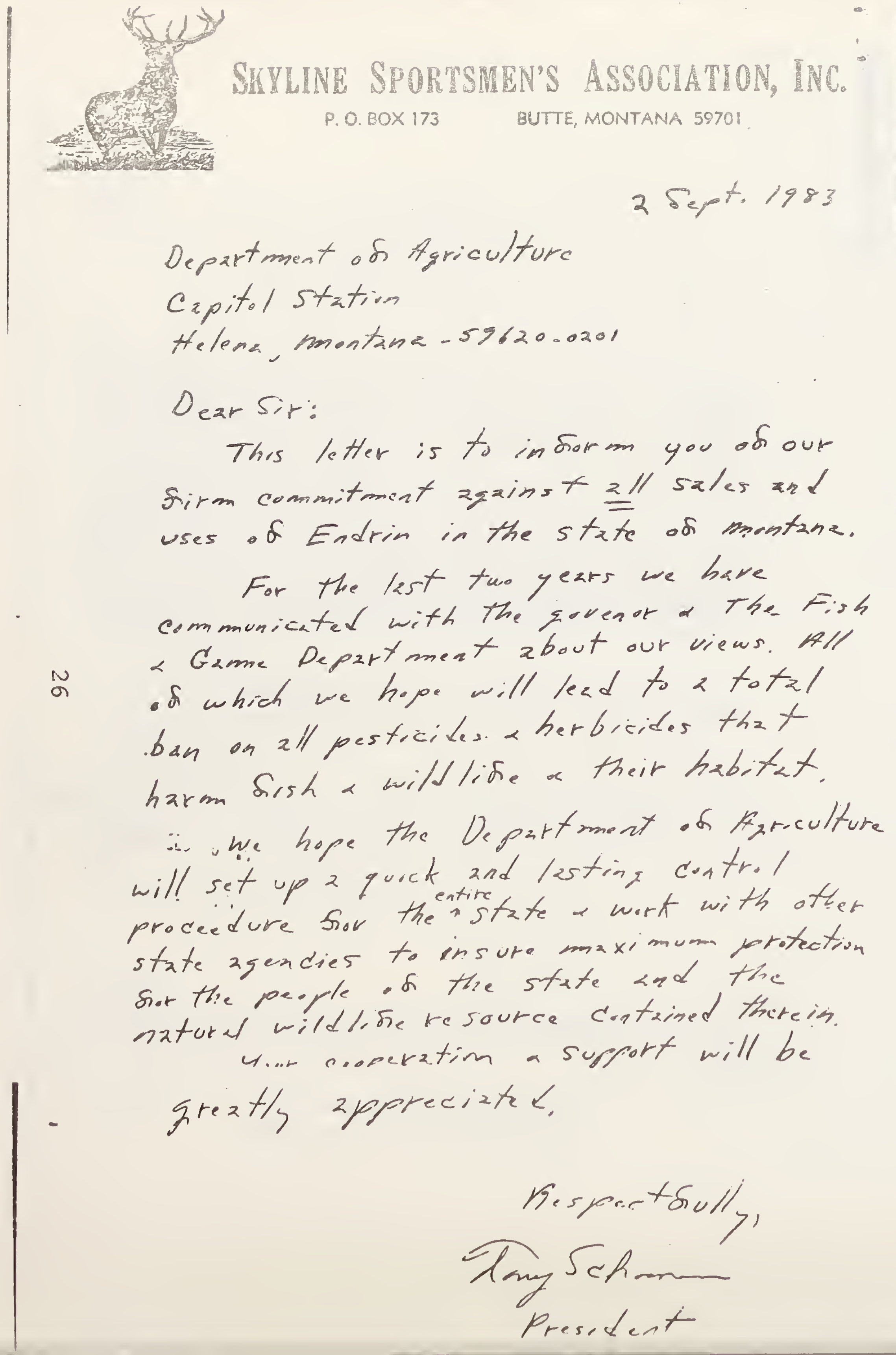
Assuming that the Departments(studies and testing of endrin toxicity and accumulative effects on soil, vegetation, water, aquatic sediments and its affects on human, mammal, and fish life have been properly conducted, and findings are correct, I fully concur in the proposed Rules to Restrict Endrin. Residual amounts of the endrin chemical, if in toxic quantities, being found for periods in excess of a year following application, is excessive in my view. My concurrence in the proposed new rules is predicated upon the availability of the substitute chemicals, chlorpyrifas and permethrin, as discussed in the Summary DEIS and that subsection (2), (3) and (4) of Rule II not be adopted as discussed in Appendix IV Agriculture.

You may consider this as my formal comment on the Department Proposal for Restricting sales and use of Endrin in Montana.

Sincerely,

Bernie A. Swift

Bernie A. Swift
Representative Dist. 91



SKYLINE SPORTSMEN'S ASSOCIATION, INC.
P. O. BOX 173 BUTTE, MONTANA 59701

2 Sept. 1983

Department of Agriculture
Capitol Station
Helena, Montana - 59620-0201

Dear Sir:

This letter is to inform you of our firm commitment against all sales and uses of Endrin in the state of Montana.

For the last two years we have communicated with the govenor & The Fish & Game Department about our views. All of which we hope will lead to a total ban on all pesticides & herbicides that harm fish & wildlife & their habitat.

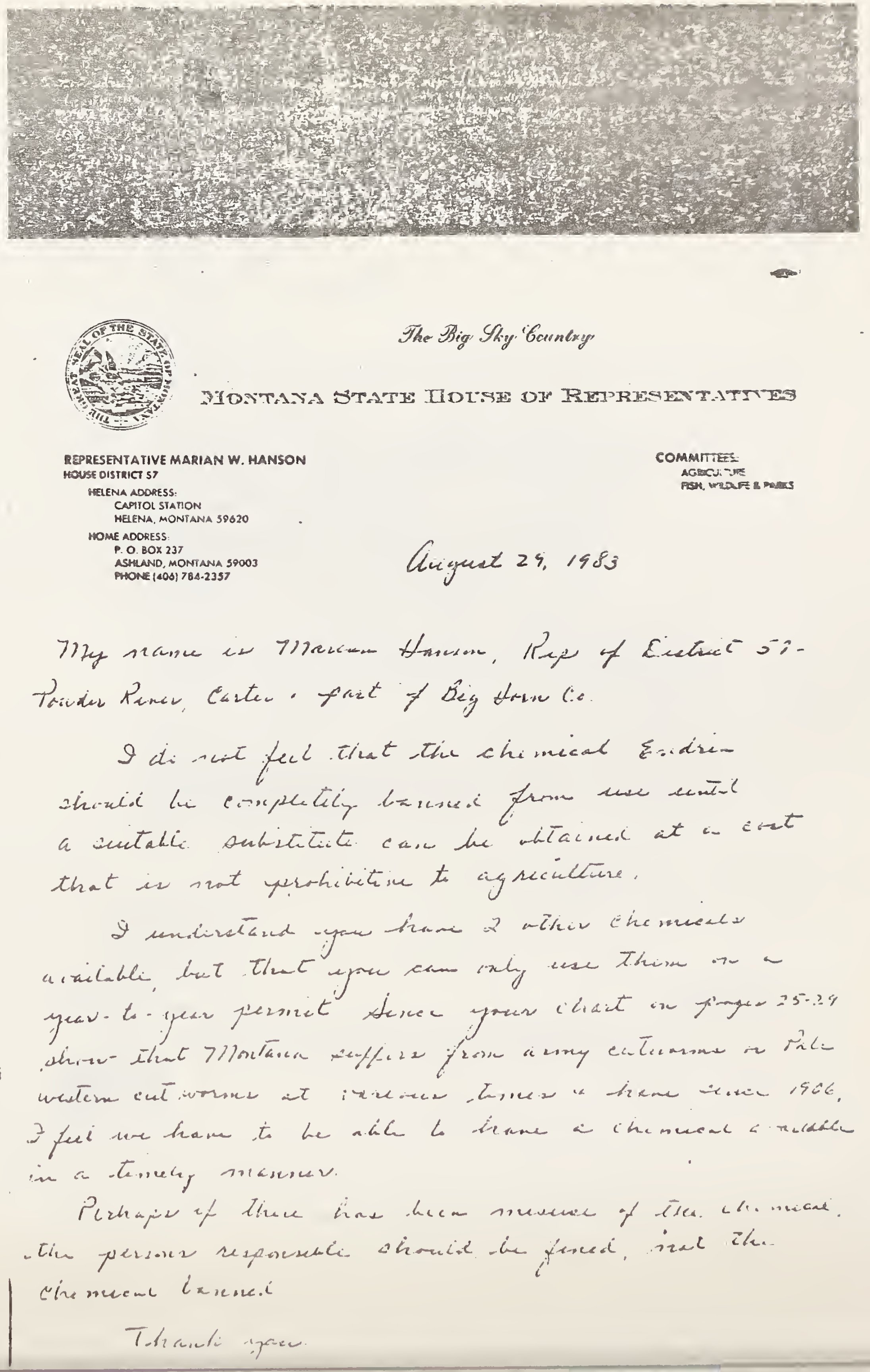
We hope the Department of Agriculture will set up a quick and lasting control procedure for the entire state & work with other state agencies to insure maximum protection for the people of the state and the natural wildlife resource contained therein.

Your cooperation & support will be greatly appreciated.

Respectfully,

Tony Sch

President



The Big Sky Country

MONTANA STATE HOUSE OF REPRESENTATIVES

REPRESENTATIVE MARIAN W. HANSON
HOUSE DISTRICT 57
HELENA ADDRESS:
CAPITOL STATION
HELENA, MONTANA 59620
HOME ADDRESS:
P. O. BOX 237
ASHLAND, MONTANA 59003
PHONE (406) 784-2357

COMMITTEES:
AGRICULTURE
FISH, WILDLIFE & PARKS

August 29, 1983

My name is Marian Hanson, Rep of District 57 - Powder River, Carter & part of Big Horn Co.

I do not feel that the chemical Endrin should be completely banned from use until a suitable substitute can be obtained at a cost that is not prohibitive to agriculture.

I understand you have 2 other chemicals available, but that you can only use them on a year-to-year permit. Since your chart on pages 25-29 shows that Montana suffers from army cutworms or Pale western cutworms at various times & have since 1966, I feel we have to be able to have a chemical available in a timely manner.

Perhaps if there has been misuse of the chemical, the person responsible should be fined, not the chemical banned.

Thank you.

Scott M. Matheson
Governor

James O. Mason, M.D., Dr.P.H.
Executive Director
801-533-6111

DIVISIONS
Community Health Services
Environmental Health
Family Health Services
Health Care Financing

OFFICES
Administrative Services
Community Health Nursing
Management Planning
Medical Examiner
State Health Laboratory

STATE OF UTAH
DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH
150 West North Temple, P.O. Box 2500, Salt Lake City, Utah 84110-2500

Kenneth Lee Alkema, Director
Room 474 801-533-6121

August 16, 1983

Mr. Keith Kelly, Director
Montana Department of Agriculture
Agriculture/Livestock Building
Capitol Station
Helena, MT. 59620

Attn: EIS

We have reviewed the "Draft Environmental Impact Statement on Restricting Sales and Use of Endrin in Montana".

We have no comments on the DEIS.

Sincerely,

Dennis R. Dalley

Dennis R. Dalley
Assistant Director
Division of Environmental Health

DRD/df

An Equal Opportunity Employer

WILDLIFE CONSERVATION COMMISSION
DON R. GREENHAW, CHAIRMAN
L. B. SELMAN, VICE-CHAIRMAN
CARL PIERCEALL, SECRETARY
DOYLE BURKE, MEMBER
JOHN O. GROENDYKE, MEMBER
JUD LITTLE, MEMBER
ROY BOECHER, MEMBER
TH B. ATKINSON, MEMBER

DEPARTMENT OF WILDLIFE CONSERVATION
1801 N. LINCOLN P.O. BOX 53465 OKLAHOMA CITY, OK

STEVEN ALAN LEWIS DIRECTOR
GARLAND FLETCHER ASSISTANT DIRECTOR
CHARLES R. WALLACE ASSISTANT DIRECTOR

August 9, 1983

Keith Kelly, Director
Montana Department of Agriculture
Agriculture/Livestock Building
Capitol Station
Helena, MT 59620

Dear Mr. Kelly:

We concur with the actions proposed in the Draft EIS on Restricting Sales and Use of Endrin in Montana. We are pleased to see your department handling this difficult issue in such a responsible way.

Sincerely,

Steven Alan Lewis

Steven Alan Lewis
Director

SAL:JS:sk

AN EQUAL OPPORTUNITY EMPLOYER

STATE OF CALIFORNIA
GEORGE DEUKMEJIAN, Governor

DEPARTMENT OF FOOD AND AGRICULTURE

1220 N Street
Sacramento
95814

August 8, 1983

Keith Kelly, Director
Montana Department of Agriculture
Agriculture/Livestock Building
Capitol Station
Helena, Montana 59620

Dear Director Kelly

Thank you for sending the Draft Environmental Impact Statement on Restricting Sales and Use of Endrin in Montana for our review and comment.

California 1982 use of Endrin was limited to Broccoli (210 lbs), Head Lettuce (69 lbs) and Vegetable seed (514 lbs). Although Endrin is registered in California for use on cotton (Boll Weevil, Bollworm) it has not been so used for the past three years. We have no information indicating any presence of undesirable residues from the very limited use here.

Our Department has no additional substantive comments or new information to offer at this time.

Sincerely

for Clare Berryhill
Director
(916) 445-7126

DEPARTMENT OF HEALTH & HUMAN SERVICES
Public Health Service

Centers for Disease Control
Atlanta GA 30333
August 9, 1983
(404) 329-3232

Mr. Keith Kelly
Director
Montana Department of Agriculture
Agriculture and Livestock Building
Capitol Station
Helena, Montana 59620-0201

Dear Mr. Kelly:

I greatly appreciate the copy of the Draft Environmental Impact Statement on Restricting Sale and Use of Endrin in Montana that you sent to my office. Indeed, a lot of effort has gone into this document and I am honored to receive a copy for review. However, I will be on travel status until the end of September and, therefore, unable to provide a strict and complete review of this document that will have such an impact on the State of Montana. I will review as much as possible and provide written comments on those areas I feel require such action.

I would also like to thank you for the time and assistance provided to me by members of your staff during my recent trip to Montana. As a member of the CDC Task Force on Environmental Health Effects Testing, I gained valuable information from Mr. Gingery in Helena and Mr. Torma at the fine laboratory in Bozeman. Both individuals were extremely helpful and I hope to have future contact with them on topics of mutual importance.

If the Center can be of any assistance to you or your staff, please do not hesitate to contact me. Thanks again for the Endrin report which will become a valuable document in our Task Force effort.

Sincerely yours,

Bill Wagner
William M. Wagner, Sc.D.
Laboratory Program Office

Kansas Fish & Game
[illegible] RURAL ROUTE 2, PRATT, KANSAS 67124
[illegible]

REGIONAL OFFICES

Northwest Regional Office
[illegible]
[illegible] Kansas 67601

Northcentral Regional Office
Box 183, 511 Cedar
Concordia, Kansas [illegible]

Northeast Regional Office
3300 S.W. 29th Street
Topeka, Kansas [illegible]

Southwest Regional Office
[illegible] 56
[illegible] Kansas 67801

[illegible] Regional Office
[illegible] West Sixth
[illegible] Kansas 67114

[illegible] Regional Office
[illegible] Building
[illegible]
[illegible] Kansas 66720

August 1, 1983

Ref: EA4.0000

Keith Kelly, Director
Montana Department of Agriculture
Agriculture/Livestock Building
Capitol Station
Helena, Montana 59620

Attention: EIS

Dear Mr. Kelly:

My Environmental Services staff has completed a review of the DEIS on Restricting Sales and Use of Endrin in Montana. In our view, your proposed action is a logical and reasonable approach to the problem of environmental contamination by the persistent insecticide Endrin. The EIS document is well prepared, therefore; we have no substantive comments other than to concur in the proposed action.

We hope prompt action is forthcoming from EPA on registration of alternative chemicals for cutworm control. Such action will be of significant benefit to Kansas as well as Montana.

Thank you for providing us the opportunity to comment.

Sincerely,

Bill Hanzlick

Bill Hanzlick, Director
Kansas Fish & Game Commission

PDW/jfc
/c: Robt. Guntert, KS Board Agric.
EPA, Kansas City, MO

SCHOOL OF FORESTRY

University of Montana
Missoula, Montana 59812
(406) 243-5521

July 19, 1983

Mr. Keith Kelly, Director
Department of Agriculture
Capitol Station
Helena, MT 59620-0201

Dear Mr. Kelly:

Thank you for the opportunity to comment on the draft EIS-Endrin. I have given your letter and the draft to Les Pengelly, Chairman of our Wildlife Biology Program. If we have comments, he will provide them.

Yours truly,

Benjamin B. Stout
Dean

BBS/plm

cc: Dr. Pengelly

Equal Opportunity in Education and Employment

Custer, Montana.
July 15, 1983

State of Montana Dept.
Of Agriculture
Keith Kelly Director

Dear Keith;

The Mtn. States Beet Growers Ass'n. of Montana wishes to acknowledge receipt of your letter regarding Impact of restricting Sales & Use of Endrin in Montana.

We feel that we best not submit testimony or attend either hearing because of the minimal contact that Sugar Beet producers have with Endrin.

Thank you for thinking of us. We welcome your Interest and acknowledgement of our orginization. Please feel free to contact us at any time if we can be of assistance.

Yours Truly
Edwin J. Kuntz
Secretary

VICTOR ATIYEH
GOVERNOR

Department of Fish and Wildlife
506 S.W. MILL STREET, P.O. BOX 3503 PORTLAND, OREGON 97208

July 22, 1983

Mr. Keith Kelly, Director
State of Montana
Department of Agriculture
Agriculture/Livestock Building
Capitol Station
Helena, MT 59620-0201

Dear Mr. Kelly:

We have reviewed the Draft Environmental Impact Statement on Restricting Sales and Use of Endrin in Montana, July 1983.

The chemical is not registered presently in the State of Oregon due to well documented adverse effects of endrin on non-target fauna. Thank you for the opportunity to comment on the Draft EIS.

Sincerely,

Irv Jones

Irv Jones
Fish and Wildlife Biologist
Environmental Management Section

IJ:tle

Mr. Keith Kelly, Director
Montana Dept. of Agriculture
Capitol Bldg.
Helena, MT

Dear Sir:

I support the proposal to suspend use of endrin and replace it with biological and cultural alternatives. I'm concerned about levels of the pesticide in game birds and waterfowl, and I'd like to spend more time hunting east of the Divide.

Thank you for considering this issue.

Sincerely,
James W. Byler
10 September Dr.
Missoula, MT 59802

August 29, 1983

Director Keith Kelly
Montana Dept of Agriculture

Dear Sir

I am unable to attend the "Endrin Hearings" so want to make my thoughts known by letter.

I support suspending the use of endrin in Montana. I also support promoting biological and cultural alternatives to using clorinated hydro carbons.

I support this action knowing that as a consumer I may pay more for agricultural products but the effect of these chemicals are simply too dangerous to risk.

Thank you

William R. Magnuson
424 Woodworth
Missoula Mont

AUG 31 '83

DEPARTMENT
OF AGRICULTURE
P.O. BOX 12847
AUSTIN, TEXAS 78711 · (512)475-6346
An Equal Opportunity Employer

August 23, 1983

Mr. Keith Kelly, Director
Montana Department of Agriculture
Agriculture/Livestock Building
Capitol Station
Helena, MT 59620

RE: Draft Environmental Impact Statement on Restricting Sales
and Use of Endrin in Montana

Dear Mr. Kelly:

We have carefully studied the above referenced EIS and are impressed by the thoroughness with which the Montana Department of Agriculture approached the "Endrin" problem. In our opinion, the Montana Department of Agriculture has adequately addressed all aspects of the problem, balanced the risks against the benefits in a fair and equitable way and arrived at a proper course of action. In short, the Texas Department of Agriculture supports your proposed course of action relative to the "Endrin" problem as outlined in Appendix V of the draft EIS.

Sincerely,

Ron D. White

Ron D. White
Assistant Deputy Commissioner
Regulatory and Field Operations

RDW/cf

Dear Sir:

In reviewing the D.E.I.S. on Endrin use in Montana, I urge you to adopt Alternative 9 - Ban Sale + Use of Endrin as so many other states have done.

Thank you for the opportunity to voice my opinion.

Sincerely,
Charles Straw
Miles City, MT.

III. ADDENDUM

B. ORAL TESTIMONY PRESENTED AT MILES CITY AND GREAT FALLS HEARINGS

MILES CITY HEARING
ENDRIN EIS

Tim Meloy: Could I have your attention please and we'll get started here. For the record let the record show about 9:20 August 29, 1983 Miles City, Montana. This is the time and place scheduled for a hearing to receive testimony on a Draft Environmental Impact Statement on rules regulating the sale and use of endrin. Hearing before the Department of Agriculture in the state of Montana. My name is Tim Meloy and I've been, I'm the Attorney for the Department of Agriculture and I've been designated by the Director to preside as Hearing Officer at this hearing. At this time I would like to introduce representatives from the Department. First we have here with us Keith Kelly who is the Director of the Department of Agriculture at my left, Gary Gingery who is the Administrator of the Environmental Management Division of the Department, and at the back table is George Algard, who is our Technical Services Bureau chief. The purpose of this hearing is to receive comment from interested members of the public on the Draft Environmental Impact Statement that the Department has prepared and circulated. I'll mention at the outset that we have circulated a witness list and for purposes of keeping track of who is here and who is going to present testimony, we would ask that each of you if you are going to present oral testimony or written testimony or both this morning if you would please sign up on the witness list. If it hasn't made it around to you, there should be one at the back table. I will use this witness list in order to call persons up to testify, and the schedule we are going to use is simply first come, first served, so I'll just read down the names as they signed up on the list. Just briefly, I will summarize the background events leading up to the preparation of this Draft Environmental Impact Statement and leading up to this hearing today. I might also mention that this is the first of two hearings the Department will be conducting on this draft--the second hearing will be conducted tomorrow morning in Great Falls, Montana. In the early winter of 1982, the Department proposed some rules regulating the use of endrin. That proposal scheduled hearings, public input--the Department conducted hearings and prior to proposing the final draft of the rule the Department determined that it was necessary to prepare what's called a preliminary environmental review under the Montana Environmental Policy Act. The purpose of that review was to determine whether or not the rule proposed back then required an Environmental Impact Statement. So, prior to the adoption of those proposed rules, the Department did prepare a preliminary environmental review and determined that certain segments of those proposed rules did in fact have a potential for significant impact and the impact was primarily on the producer economics, and because of that conclusion the Environmental Policy Act required that we then in fact prepare an Environmental Impact Statement. So in March, when we reached that conclusion, we did adopt a very small part of the original proposed rules; that part that we determined did not have a significant environmental impact. The remainder of those proposed rules were held back pending the preparation of this Draft Environmental Impact Statement. Of course, it was a major, one of the most major tasks that the Department has ever faced. We wanted to do a good job and it took awhile. Finally in early July of 1983, this past July, the Department completed it's Draft Environmental Impact Statement and at that time and pursuant to the requirements of the Environmental Policy Act, that draft was filed with the Governor and the Environmental Quality Council and in addition circulated to over a hundred groups of persons who had expressed interest in the endrin regulation issue. At the same time, the Department announced that it would be conducting these hearings to receive comment on that draft. It's for those of you that have seen the draft, it's quite a way from document so we therefore prepared a shortened summary version, which we do have a certain number available at the front table there for those of you that were not able to see the complete draft or did not get a summary. At this time, before we go into the testimony, I'd like to introduce Keith Kelly who will give you a summary of the Draft Environmental Impact Statement, and also a summary of the action that the Department selected out of that draft and is proposing today for comment.

Keith Kelly: Thank you Tim.

As Tim indicated, this is the first time the Department of Agriculture was faced with situation of putting together an Environmental Impact Statement as required under the Montana Environmental Policy Act. This is something entirely new to the Department and venturing into a new area to insure that we did it properly and accurately and covered all of the issues raised was a considerable drain on the manpower of the Department for a good share of 1982 and the first half of 1983. To go out with an impact statement that would address all of the issues concerned and the incredible document and we feel we've met that objective. Our purpose here today of course is to share with you what we propose to do and it, the members propose to do in regards to the rules on the usage of endrin in Montana. And this opportunity of this hearing allows you to respond back and offer testimony in areas that you think we were short or negligent or that we have not covered the issues well enough and so that we may take it back for further consideration and if the availability of new data or information is substantive to that point would be further reviewed with the possibility of the rule maker, the hearing process to further revise our findings if that is found necessary As all of you are aware, before I start, I'd like to introduce the other members of the staff of the Department of Agriculture that have been intimately involved with this since 1981 when it all started. Sitting at the table over here with the tape recorder is Gary Gingery. He has been administrator of the Environmental Management Division, which is responsible for the whole area of the registration, usages and sales, training, etc. of all pesticides in the state of Montana under use agreement with the Environmental Protection Agency. Along with that, under Gary's division, at the back of the table with the sign up sheet is George Algard, who is the Chief of the Technical Services Bureau, and the primary thrust of this Environmental Impact Statement, putting together with his experts to create this document which came under George's direct supervision who was involved of course, to this point. As you are all aware, it was the spring of 1981 that there was a major army cutworm outbreak in Montana with a large share of them here in the eastern part of the State of Montana. And we had a hundred thousand acres of small grains being treated with endrin. In addition, there was some errant applications of endrin and toxaphene that caused some fish kills in Sunday Creek down here in Custer County. And at that point we began monitoring, prior to the fish kill problem, we began monitoring the problems with the large, unusually large usage of endrin to combat the major army cutworm operate that was unusally large, and the Department of Fish, Wildlife and Parks were asked to cooperate with us with monitoring the programs in measuring the effects of endrin applications on fish and wildlife. In addition, the Department of Livestock was asked and came in to cooperate by analyzing beef tissue and raw milk through the regular state wide monitoring program, because there are some restrictions on feeding forage that has been treated with endrin.

Early on in the analysis one of the main problems that appeared was the residues in game birds that exceeded action levels of 0.3 parts per million set by the U.S. Department of Agriculture. Part of this problem is here that there has never been any tolerance levels for pesticides established for wildlife. We have it for beef livestock that was moved through commercial channels, also meat usually consumed in grocery stores. We have it for poultry, pork or anything like that so the only thing we had to really look at all with no threshold levels or tolerance levels for contamination, we at the initial onset tried to make our best comparisons as using upland game birds and wildlife, those birds and ducks with regards to domestic poultry, and therefore we established the three parts per million threshold level to work with. That was one of the problems that we immediately faced because it had never been reviewed by the Environmental Protection Agency to look at wildlife contamination issues with pesticides. It was because of the widespread endrin residues and the possibility for its effects on wildlife that the potential for contamination in agricultural products and that potential is there is restrictions on the usage of endrin on forage crops that could ultimately be consumed by livestock. There's some absolute restrictions so we did see that there were some real economic impacts to some producers that may have sprayed a crop who then could not feed the forage later on of the straw or something like that to the livestock. Also saw some particular impact to human effects, human health, and it is with that the Department determined that the usage of endrin should be restricted from what it was in 1981. We considered 14 alternatives, but in actuality, we discounted, quite rapidly, five of them were rejected from detailed evaluation because of their failure to directly resolve the endrin problem and because of additional adverse economic impacts. Then we addressed 9 alternatives in detail. Those are available as many of you have seen in detail, section by section, in the draft of the Environmental Impact Statement. And they are also touched on briefly and I don't know if they've already been passed out with copies of the executive summary that touches the alternatives we look at, alternatives that the Department is proposing for you, the one that we would like to go forward with. The first alternative that we take no action at all and just go on a year by year basis on the existing rules for endrin. The second alternative addressed endrin being applied by commercial applicators only. The third alternative of putting their firm buffer zone around private and public waters. The label requires, had the statement on the usage of endrin around public waters, but we looked at an alternative extending that because there is also a threat to wildlife on private waters, and we looked at that alternative. The fourth alternative would require commercial or private applicators to complete training by the Department of Agriculture prior to their endrin purchase. The fifth alternative was endrin application restricted to ground equipment only. The sixth alternative was use endrin only where economic infestations are confirmed by trained individuals to exceed 1% of the counties total private small grains acreage in a given year. Alternative seven dealt with endrin application only after confirmation of an economic infestation by trained individuals on a field by field basis. The eighth alternative was to limit endrin sales in Montana to 5,000 gallons per year.

The ninth alternative was to suspend the sales and use of Endrin and would cancel endrin registrations when alternatives are permanently registered by an Environmental Protection Agency. And that was a proposed action of the Department. I'll just very briefly summarize some of the environmental impacts that we address in the whole thing. EPA has already concluded that endrin may be, and I use the word "may be" teratogenic which means it can cause problems in the first trimester of carrying a child. To humans with the greatest risk being to female applicators that may be handling endrin applications. Endrin use can result in residues in game birds that exceed the action levels established by the USDA for poultry and we did witness that in 1981. Another area that, why we looked much harder at alternative nine of suspending the sales of endrin currently and cancellation upon registration of the viable alternatives, is that major economic impact could be experienced by the livestock producing industry and the fact that they are restricted from feeding the forage that had been applied with endrin to the period before it so and would not get into the food chain through beef cattle and be ultimately sold so that is the major economic impact for any of the livestock producers, particularly here in Eastern Montana you see large livestock operations that could suffer some economic impacts. Another reason we selected alternative nine in the suspended sales and uses of endrin is that there are several very promising chemical alternatives to endrin that are now being developed and in particular chlorpyrifos, and permethrins and they are already in use in Montana under a special registration. In 1981, 2, and 3 the Department was granted specific exemptions from EPA to use these chemicals for control of cutworms in small grains. I do want to point out that we just do have a special exemption for these chemicals and it is our intent to get permanent registration for them and upon that point when we have a permanently registered compound recognized by EPA in the State of Montana it is then that we will suspend the use of endrin completely, or cancel the uses of endrin completely. Okay, in the proposed action, we propose to implement administrative rules suspending the sales and uses of endrin for control of cutworms in small grains. That's our first proposal, those will be suspended. We do recognize that there may be some existing endrin stocks out there in place with dealers and some applicators and we are allowing those stocks to be used up within two years. After a period of two years the remaining stocks must be disposed of according to EPA and Department of Health and Environmental statutes on hazardous wastes or returned to their manufacturer. Additional restrictions in the usage of those endrin stocks that are sitting out there for this two year period upon implementation is ruled to be when the two year time clock runs would be extending the buffers on restrictions to improve private bodies of water. The current label on endrin does have a buffer zone designated for public bodies of water. For those two years remaining stocks of endrin out there would also include private bodies of water as a buffer zone. Once any of these effective alternative chemicals are registered by the EPA in Montana, the endrin registration of small grains will be cancelled by the Department.

That is the intent of the Department, will be to cancel on permanent registrations of an alternative and as at this point we do not have permanent registrations; we have had only special exemptions, special registrations on a year to year basis. In addition, on the pesticide dealers, with regards to its years of remaining stocks of endrin, would be required to maintain and submit records for endrin sales as required by the administrative rules of Montana that are currently on the books. The cancellation of endrin for grasshoppers and small grains would be continued as it was enacted in March 31 of 1982, so endrin would no longer be allowed under any circumstances for use of grasshopper control. The endrin registration for vole control in apple orchards would also be cancelled immediately upon the passage of these rules. The biggest problem we've had with the suspension due to cancellation of the sales of the usage of endrin in Montana is that we are trying to address that we acknowledge and fully recognize that the army cutworm can be a very serious problem to Montana grain producers, and it's with that that we have developed this Draft Environmental Impact Statement we've pulled into a very tight review throughout the entire statement is that the usages, the viable and economic usage of alternatives. Number 1, they have to work, Number 2, they have to be economically viable to the agricultural community so that they can control their army cutworm problem with major infestations.

We've had a couple of years of experience with the alternatives in place now and we do feel that they are viable alternatives number 1, and number 2, on a price basis, with some of those alternatives, they are very competitive and in fact you might say as equally competitive in cost of acreage application as the compound endrin is. So it is in that vein that when we looked at the suspension of endrin we do think there's something in place but we also acknowledge we do not have it permanently registered and it is for that reason we have only suspended the usage of endrin. In the event that we were unable to secure a permanent registration of the usage of endrin we will go back to the original rules governing the usage of endrin in Montana because we do not have a viable alternative in place. It is clearly our hope, we keep thinking that maybe sooner than later that the permanent registration comes through, but at this point it is not there yet for some of the chlorphyrifos and permethrins and underneath the trade names of Lorsban, Ambush and Pounce. In looking at endrin when we were out there we indicated that the problem we had with toxicity of the birds, we've also seen the residue levels up to a year later that have been sitting in the aquatic sediment, we've seen the residues in soil after 55 weeks, and so small of amounts of residues I would indicate to you, but we've seen them for a long period of time and that's why we also in vegetation saw the residue levels carry over for a full year's period at least a detectable level, it's not an alarming level, but it's a detectable level with endrin. So aquatic sediment, soil quality and vegetation we have still seen that the endrin residue is available and we do think the alternatives offered for livestock raisers and others and the impacts on wildlife and human health would be something much less.

Another area we looked at throughout all of the alternatives that I'd like to draw your attention to is the recreational activities and spending. The alternative we have chosen for us with the suspensionable will mitigate endrin contamination upland game birds and migratory waterfowl that occurred in Montana in 1981. Even though it will minimize it in Montana, we may still possibly see residues because of other states south of us that are in the flyways that may or may not be using endrin. You can be assured that will not have the direct endrin contamination within Montana but we cannot address that of states in the southwest and the surrounding states of Montana where endrin usage is still registered. Endrin has been registered and still is registered in Canada but they have not made any major use of endrin in Canada since 1972 so we do not believe there would be any contamination of wildlife from the Canadian side at the present time.

I've touched on agriculture production briefly; we do feel that the there's alternatives available that work effectively with now a couple of years experience under them and under our Section 18 that we've been able to grant the special exemptions to use those alternatives and we will continue to do that until and when we get a permanent registration for the alternatives. Again on price, these compounds are competitively priced against endrin and, as I said, appear to be effective in controlling cutworms.

On the human health aspects, we talked about that endrin had potential health hazards with somebody that might be making application or get themselves too much endrin in direct contamination with endrin themselves and the applicator, or somebody mixing compounds for aerial or ground application. You are aware that there are residues in some of the game birds that people were amazed on occasion in Montana and in terms of registration of the chlorpyrifos and permethrins there are still some questions remaining on human health issues and the establishment of the tolerance for smaller grains but it appears as fast as they dissipate out of wildlife or other things that the impact on human health would be less than it would be with endrin. We do not have all answers to all questions of the health aspects of it.

Impact on state and local taxes we also looked at that and we have concluded that the contamination of upland game birds and ducks was a factor, how much is very difficult to measure. We've worked with the Department of Fish, Wildlife and Parks to see how much impact was made on hunting licenses with endrin residues and how much was that with other factors and we could not determine a measurable amount of reduced license sales directly attributable to endrin but we do acknowledge that that was one more straw on the camel's back that could have had some impact. There were other economic considerations that may have also reduced license sales had the endrin issue never arisen. But anyway, we acknowledge and recognize there are some economic impacts and licensees under the Department of Fish, Wildlife and Parks with the absence of, with the implementation of this proposed rule would take care of any reduced license sales because of fears of endrin contamination, at least on the Montana side.

That pretty well covers it. We are proposing new rules that are very similar to what the draft EIS, our alternative is under the draft EIS and I touched on that again, I'll go down and its the last two pages under the new rules being implemented on the sale and use of endrin for pale western and army cutworms, there's a page 10, and now pending on the resolve of this hearing and what not we will go through the proposed new rule on the usage of endrin or the restriction on the usage of endrin and as I indicated, the right to sell or otherwise distribute, purchase or use endrin for use on small grains to control army and pale western cutworms in the state of Montana, except as provided in the 2nd section, is suspended on the effective date of the proposed rule. In the second section with, there are some exceptions to this in that existing stocks with the registered use stated of endrin purchased by and in the possession certified commercial and farm applicators that is on hand may be used under the following conditions, but no later than two years from the effective date of the rule, so the existing stock that is in the two years time frame when that must be used up. There's also restrictions on the application of that around both public and private waters as I indicated earlier. No aerial application shall be made within 1/4 of a mile and no ground application shall be made within 1/8 of a mile on any lake, pond, river or stream or irrigation system whether public or private. That the intended usage shall be reported by telephone or in writing by the applicator to the Department prior to application giving the following information. And basically the information is name of the landowner, name of the applicator, where it's application is to be made, when it will be made, and number of acres to be treated. At the end of those two year periods, any remaining stock shall be disposed of in accordance with the procedures established by the pesticide act and its rules and the hazardous waste act and its rules promulgated by the Montana Department of Health and Environmental Sciences, or returned to the manufacturer. And the other deals with the, there will be a time frame to dispose of those chemicals after the two year period or return to the manufacturer after the effective date of this rule, which will be of course, after the two year period. At such time as one or more of the alternatives to endrin that are now available through Section 18 of the FIFRA; when one of those alternatives becomes registered by the EPA and the State of Montana, then and then only will registration of endrin for purposes specified above shall be automatically cancelled. And as indicated, there'll be a two year period to take care of existing stocks.

And for purposes to see if it's effective viable alternative, it will be the criteria that they must meet with the preliminary alternative we use or there may be a new alternative that comes along and that will have to deal with the efficacy of the compound for cutworm control, of the criteria and the other note to make the cancelling and registration of endrin for grasshopper control is antiquated earlier that was put in affect March 31 of 1982 is hereby continued, and the registration of endrin for control of meadow voles in apple orchards will be permanently cancelled.

On that basis, we go through what we propose to do, No. 1, suspending endrin at the present time and pending the registration of permanent alternatives would be a permanent cancellation of endrin. And in that interim period, existing stocks there would be two years to allow those inventories to be worked off, and I guess I would note to you at this point in time, we have witnessed the usage of endrin since 1981 with approximately just a little less than a hundred thousand acres. In 1982, the usage of endrin dropped down to approximately 10,000 acres, and in 1983 this year we had, correct me if I'm not mistaken Gary, but around 4300 acres if I can find the right section (Gary: 4,000). So around 4,000 acres, so we have witnessed in the agricultural community with the availability of a workable and economic alternative, the usage of endrin has dropped off dramatically in Montana in the last two years. Although I should acknowledge that the usage of endrin or the ability to use endrin has required people reporting and whatnot in this interim period, but it does appear to us that the alternatives are working quite well and the agricultural community is willing and ready to try out these alternatives.

So we've gone from a hundred thousand acres to 10,800 acres down to 1983's 3900 acres on the usage of endrin. I might note that last year there was approximately 46--approximately 50,000 acres sprayed in Montana, primarily the culprit was the pale western cutworm, and not the army cutworm and on 46,000 of those acres the alternatives primarily Pounce, one of the permethrins, primarily, Pounce was used so you've seen uses of the alternatives being accepted and put into place quite readily, it appears to us. That concludes my brief review of what the Department has proposed to do and that's what you are here today is to present to us other scientific evidence or something that you think we have failed to address in the EIS with regards to our proposed alternatives and offer new testimony or information on the proposed rule of endrin. With that, Tim, I'm going to stop and turn it back to you.

TIM MELOY: Thank you Keith. I want to make it clear at this point that, in addition to any oral testimony, the Department will receive and consider written testimony. When the draft was circulated back in July, we also notified the media and the various papers that we would be accepting written comment up until August 31st. So, for those of you who have not submitted written comment, would like to, or know others that would like to, there's still a couple of days left. We have received a number of written statements already that were mailed directly to the Helena office and some, of course, that will come in during these hearings. Those letters, again, are made a part of this record and will be given equal consideration along with any other testimony offered. Before we start taking testimony, I would like to cover a few little ground rules for the hearing. First of all, so that we do have an adequate record to review, we are taping this hearing. For the purposes of assisting in the recording, those of you that wish to offer oral testimony, we would like to ask if you would please come forward to the podium when you make your remarks so that we can be sure and get a recording. In the interest of time, we would also request that those of you that have written statements prepared and wish also to present oral testimony if you could try to summarize your statement rather than reading it, that would help us all in making the interest of time here this morning. At this time, we are not going to impose any time limits on your oral presentation. You people take the time to come down here and we want to make sure you have a chance to say what you came to say. However, we would also request that you try to be to the point and brief as possible, and yet still get your statement made. In that connection, I'd like to remind you that, while there's a lot of things to be said about the issue of endrin, we would like to point out that the purpose of the hearing is strictly to hear your input on the Draft Environmental Impact Statement and the alternatives that the draft has selected as a proposed rule. There will be no rebuttal statements or cross examination of other witnesses unless the presiding officer requests it. The names for testimony will be taken off the witness list so anyone here who wants to present oral testimony, make sure you get your name down there. If we manage to miss someone, I will make sure at the end of the testimony that no one got left out. If you have any questions regarding any of the statements, conclusions, procedures or whatever that the appeared in the Draft Environmental Impact Statement, when you make your presentation, state your question. If it is something that we immediately know the answer to, one of us will attempt to give you your answer. If it raises an issue or point that we overlooked, your question will be noted in the record, you'll have to give us time to study it and we will give you a response when the final Environmental Impact Statement is issued. Finally, at the conclusion of the testimony, I will cover the procedure from on what happens from here on out as far as the Environmental Impact Statement process is concerned, and as far as the rule making process is concerned. I might point out at this time however, that we are, the Department is required to follow two separate statutory requirements. One is the Environmental Policy Act which tells us some hoops to go through, and the other is the Administrative Procedure Act which gives us some more hoops to go through when we make rules. We have set the Draft Environmental Impact Statement up so that you can see in the draft our present intention as to the type of rule that we want to propose. We would hope that at this time, you would give us your comments on that proposed rule so that when we conclude the Environmental Impact Statement process and start the rule making process, we won't have to go through another full blown process on, as far as receiving comment on the proposed rule. If we come up with at the conclusion of the Environmental Impact Statement process, if we come up with a rule, or a set of rules that are different, or entirely different than are stated in the draft, then of course, we will have to go through the whole hearing process again. However, at this time we do not anticipate that. So, long winded way of saying, please also, in addition to your comments on the Impact Statement, give us your comments at this time, if you can, on the selected alternative which we are putting up for discussion as the proposed rule that we anticipate going ahead with. At this time, I think we will start with the testimony. George will bring up the--

HAROLD JOHNSTONE: I happen to be the only aerial applicator I think, in this part of the state that it was possible to be called to a hearing in Helena for misuse of endrin in 1981. I'd like to go back into the details on that just a little bit. If I'm not mistaken, I was told by one of the investigators that they found five suckers in Sunday Creek that I killed with endrin. I won't dispute this one way or the other. I was guilty of violation of the label. I sprayed within a quarter of a mile of the stream for the simple reason that it was being farmed by a young man who had started farming and there were some 285 acres in this field, stretched along possibly 2½ miles continuous creek and the crop was pretty important to him. I'm afraid if I had to do it now, I would frankly say, "You've got a tough one son, but I'm sorry I can't help you". Anyway, no argument about it, but I did want to mention the fact that the Sunday Creek fish kill, as far as endrin was concerned, was certainly not of any importance as sometimes it was construed to be. And I see we have a member of the press present today. I'd like to mention the fact that he's been very fair in his evaluation of this incident, so I have no arguments there at all. The media kind of got to me with that statement in 1981, I'll be frank about it. I got tired of seeing my name in the paper. Well, going back to the beginning of all this, some time in the 50's, incidentally, I've been doing this 31 years, My friend Shoak(?) back here has me by a year, so I was around when we started all this, about chemical usage. I've had these friends who were working in the south, and when dear Rachel Carson wrote a book called "Silent Spring", she only did one thing wrong. She didn't stick around to see the results. I worked cotton in the South, where we put as much as nine or ten applications on the cotton in that area. In the last operation, you defoliate the cotton, and when you defoliate the cotton, you've done (unintelligible). So what happens is this: I had the experience of going down before the cotton season started one year. And I didn't know they had any mosquitoes in Mississippi until then. I went down the 20th of July. You walked out in the cotton field; they ate you alive. And one old colored man came up to me one day, he said, "I sure all glad to see ya heah," I says "How come Joe?" "Why man", he says" these skitoes' been eatin' me alive," and he says "by golly, them fellows is down here and goin' to start 'Pizening' these here", and he said "That kills all the 'skitoes'". So I had never been there early enough to know that they had mosquitoes in Mississippi. They didn't have any birds either. But today (unintelligible) by the time you were two thirds through defoliating cotton in your area, it was hazardous to fly. There were so damn many birds, we were hittin' two and three birds every flight; we had bird dents in our wings, busted wind shields, and everything else. Those birds are not stupid. You go ahead and you kill all the bugs and all the insects that they live on, they leave. They didn't die; they were hungry; they went someplace where there was somethin' to eat, and Rachel Carson failed to stick around long enough. I'm glad you fellows stuck with it for 55 weeks did you say? In other words, we are thinking--we're not quite like the fly that was on the manure fork on the pile of manure. He flew down and he ate, and he flew back on the handle, he flew down and he ate, then he flew back on the handle. He did this three or four times. Finally one time he flew off the handle and he exploded, so you just don't fly off the handle when you're full of you know what. So anyway, getting back to what happened here, you keep mentioning a hundred thousand acres. Did anyone ever put a computer to this and figure out what percentage your talking about? I did it roughly, I just said if an area of probably 125 miles by 125 miles, which comes up to be ten million acres and a hundred thousand, you'll be 1 percent.

ANOTHER SPEAKER: 1 percent,--less than that - ¼ of one percent I believe.

HAROLD JOHNSTONE: In other words, I just wanted to point that out. Mainly, in Custer, Prairie and Powder River, Carter and what's the county in Baker, Fallon Co., that would be six counties. I'm glad to see that you looked around and I'm hoping that that EPA registration will come through. Did anybody ever say how many million that's going to cost? How much we're going to have to pay for it?

GARY: It's in the EIS

HAROLD JOHNSTONE: Alright, I didn't see it. I believe that's about all I have to say. I do want to compliment you fellows; you approached it very well.

TIM MELOY: Thank you Mr. Johnstone. Next we have Representative Jerry Devlan.

JERRY DEVLAN: Mr. Chairman, for the records my name is Jerry Devlan and I represent House District 52 which includes Prairie and Custer Counties rural. My main concern when this is all hatched out is that the agricultural community will have an alternative costwise, and effective-wise that they aren't left out in the cold when they have an infestation of pests in their fields. If you have accomplished those things, the EPA, and if, I understand it correctly, this is contingent, the acceptance of these rules is contingent upon the registry by the EPA, plus the registry from the State. And if the agricultural community is assured of this, I and all the things, the effectiveness, the cost effectiveness of the cost-wise and all, then I don't think that there should be much resistance towards the acceptance of the new rules. And I know I've talked to several of my constituents and that is one of the things that they come out with first is: Are we going to have the only tool that we've been using cancelled and just get left out in the cold while they hash for five or six years to find out if we're going to get one of the alternatives registered so we can use it?" And I had some more questions later, but I'll wait for the question time for that so--

Keith Kelly: I'd like to respond back to Jerry, on that assessment of using the alternatives compared to endrin this last year, the cost per acre basis is about the same, particularly the one alternative that's been used quite heavily is Ambush. Pounce, excuse me. Pounce. And the effectiveness in one of the initial studies you cannot draw conclusions, nor would we want to out of that of one year, because we did not have the same type of conditions in 1981 one we faced in Southeastern Montana but the effectiveness was very, very well, as a matter of fact in many cases it exceeded that of endrin. And that's the very reason why at this point we have not cancelled the usage of endrin, we have only suspended the usage and are waiting for the permanent registration of the alternatives, and those two criteria appear to have been met at this point, now awaiting for final sign off that we have a permanently registered product to use in the State of Montana, because, like you say, we have it under a special registration right now and it's going through the lengthy review processes, the alternatives have been for several years--before we give up the burden.........(end of tape)

TIM MELOY: Okay, you'll have to forgive me if I mispronounce any names. The next person indicating oral testimony is Dale Benge?

BENGE: Well, we'll accept the Benge, we get the Benge. We say Benge.

Tim: Benge--Dale Benge.

Dale Benge: Well, I'm sorry to be late this morning, but it seems like it, Monday morning is a bad morning for our place anyway, but I'm glad to be here and, I wish to say that I suppose I feel quite often when I go to a hearing the decisions have already been made. And I was glad to hear after Jerry made his testimony here what Keith has to say that we do have some real good alternatives. I've been actively engaged in farming for 47 years, I won't tell you my age. But during that time, we've had two bad infestations of cutworms. Both times in our area we used endrin. I think of it that sure, it may have led to the possiblity that some of our game animals had too much residue within their systems, but for two years out of 47 in the area that I live in, it doesn't seem to be something to be bad enough that we should dispose of a good product. I realize that we do have to watch our chemical and very much interested in that, whatever we do, whatever chemical we use, whether it be our Pounce or our Lorsban or whatever it be that we keep a good, or Ambush, that we keep a good tally on what's going on. If this is a problem, I've found the problem to be somewhat different in my area than what we were told at the hearing held in Miles City about two years ago when we were told by Dr. Jim Glosser, who I have lots of respect for, that we would find no residue in regrowth. Oakford Bain has tested our place both in the fall that we used it, and by the way, we did not spray one complete field, we only sprayed parts of fields because we were concerned with both the cost, and the residue of the chemical and in no way that we ever used the residue, but there was no amount of residue in any of the straw,the chaff, or the grain. But, in the regrowth it was above the acceptable level--in wheats, in re-growth of grain. And I think that was kind of interesting how everyboby- spring, it was milled,the place that we wanted to use for our livestock, which was late in the season we disked that out, destroyed the re-growth, there was no problem. The other area that we do rent, we are not allowed to graze by our landlord, so that had no problem either other than the game animals could graze there. I quite often, when I read these things about taking something from us, it seems like we work and we work and we plant and either the weather, or something, prices, or something takes something away from us that we thought we had. And I get quite irritated and so before I get any further into that, I think I'll just conclude my remarks and let it stay at that. I might have some questions after awhile. Thank you.

TIM: Thank you. Representative Marion Hansen, District 57.

REPRESENTATIVE HANSEN: Good Morning, for the record, I am Marion Hansen, Representative District 57, Powder River, Carter, and part of Big Horn Counties. I do not feel that the chemical endrin should be completely banned from use until a suitable substitute can be obtained at a cost that is not prohibitive to agriculture. I understand that you have two other chemicals available, and that you can only use them on a year to year permit. Since your chart on page 25 to 29 shows that Montana suffers from army cutworms or pale western cutworms at various times and have since 1906, I feel we have to be able to have a chemical available in a timely manner. Perhaps if there has been mis-use of the chemical, the persons responsible should be fined, not the chemical banned. Thank you.

TIM MELOY: Thank you. That concludes the persons indicating definitely that they would like to present oral testimony. We have a couple of people that put a question mark. We'll go back to you at this time and see if you would care to make a statement at this time. First of all we have Carolyn Johnstone.

GARY OR GEORGE: Pass.

TIM: Okay, we also have John Baldwin.

JOHN BALDWIN: I think I'll delay any statement until the questions.

TIM: Very well. Is there anyone else here who either signed up did not indicate they wished to give oral testimony, or didn't sign up at all, who would like to make a statement at this time? Well, very well, that concludes the testimony. As I indicated earlier, I'd like to take a moment now. I think what we're going to do is take a little recess here for, how about recess here. How about if we recess until about 10:30, see if anyone else shows up to give testimony, and at that time we will go back on the record and conclude the hearing and attempt to answer any questions that you may have.

KEITH: Should we do that during the recess or should we just go on? You could tape the questions now for that matter, I suspect if we had some inquiries, someone said they might have a few questions to ask.

GARY: About five minutes.

KEITH: What's that?

GARY: About a five minute break.

KEITH: I see what you mean. A five minute break has been suggested. Come back in, we'll ask some questions. If somebody else comes in the door, we just want to make sure we keep this so we can receive testimony at a later time than just closing it off completely now. So I guess that's the plan. A five minute break and come back in and we'll respond to any questions or inquiries you may have in regards to our blue book. How does that sound?

TIM MELOY: Okay, let the records show that we are back, we are resuming the hearing on the endrin draft of the Environmental Impact Statement at approximately 10:30. At this time, I'm going to ask are there any more persons who did not testify earlier that would like to make a statement for the records at this time. Very well, let the records show that that concludes the testimony this morning. At this time I would like to give a brief description of basically what happens next in this process. As I indicated earlier, we will be conducting a hearing in Great Falls tomorrow. At the completion of that hearing, and after the 31st, which is the deadline for written comment, the Department will then take the hearing record, along with all the written statements given, review the comments in, review the Draft Environmental Impact Statement and the selected alternatives in light of the comments we received and, at that point, the Department has 30 days to make one of the following decisions: They will have to prepare a final Environmental Impact Statement. Depending upon the nature and extent of changes that may have to made to the Draft Environment Impact Statement, the Department can either take the draft statement, make whatever alterations if any, are necessary and issue that draft along with any necessary addendum incorporating the changes, issue that draft as the Final Environmental Impact Statement. Second option, if necessary, in light of the testimony, a major revision of the Draft Environmental Impact Statement has to be made, then that revision will be made, and it will be issued as the Final Environmental Impact Statement. In either case, the final, whether it's the draft or a revised draft will include a response to many questions, statements, objections that have been made during the hearing process along with a final summary of the conclusions of the impact statement, and a final summary of the selected alternative. Once the Department has prepared that final, it will be submitted as required by the Environmental Policy Act, to the Governor, the Environmental Quality Council and other persons that have expressed an interest in this process. Once the final is filed with the Governor and the Environmental Quality Council and mailed out to interested persons, the Department then must wait a minimum of 15 days. After the expiration of the 15 days, the Department then can initiate or begin placing its selected alternative into effect. As I indicated earlier, the way we do that, is we take the selected alternative and we start the rule making process. We're not entirely certain at this time whether or not and to what extent revisions will have to be made, however, hopefully we will be able to use the draft as the final, along with an addendum reflecting any changes in that draft. I point this out because we want to make it clear that those of you who have received the statement itself or have access to one, please hang onto that. We do anticipate that we will use that in some form as the final statement, and we don't want to have to go through the enormous expense and time of preparing an entirely new impact statement for those that did not hang on to the one that they originally received or had access to.

With that, I think what we're going to do is go off the record and take any questions that you may have and attempt to answer them as best we can. Keith, do you have any final remarks to make before we conclude?

KEITH: No, other than just that in a normal hearing process, there isn't usually a question and answering period, but since we're down here, and you're all here if there are some questions I guess that we'd ask that you--they're not part of the record, but if you have some questions you may have for us, I guess I'd suggest that you deal with the Environmental Management Division, pesticide,and pesticide use and primary this hopefully will be addressed fairly specifically some question you may raise on chemically how we read the resolve on a certain issue here within the EIS. If further questions come from there, they can come from other areas--we do have two people within the Department that in a technical aspect that probably can address them a lot better than I can, so just feel free to inquire wherever you want and we'll go from there.

TIM: Sir?

ANOTHER VOICE: I had a question.

Tim: Well, do you want to go on the record or do you want to--

ANOTHER VOICE: No, this is an aside.

Tim: Okay, we'll at this time then let the record show that the testimony is concluded and this hearing will now be adjourned.

GREAT FALLS HEARING

ENDRIN EIS

TIM MELOY: Let the record show it's now 9:15, August 30, 1983, Great Falls, Montana. This is the time and place set to hear testimony before the Department of Agriculture on its Draft Environmental Impact Statement on rules regulating the sale and use of endrin. My name is Tim Meloy and I'm the attorney for the Department of Agriculture. I've been designated by Director Keith Kelly to act as presiding officer at this hearing. I'd like to introduce members and representatives of the Department. First we have to my left is the Director, Keith Kelly, Gary Gingery who is the Administrator of the Environmental Management Division, and at the back table George Algard, Technical Services Bureau Chief. We had a sign up sheet, and I assume that most of you, anyone that's interested in testifying either giving oral testimony today or a written statement, we would ask that you get your name on the hearing witness list. As far as oral testimony, I will just call the names from the list as they have been given to me.

Briefly, background events that bring us to this point today. In the winter of 1982, the Department found it necessary to propose the adoption of rules regulating the use of endrin. During that rule adoption process, the Department also determined it necessary to do a preliminary environmental review under the Montana Environmental Policy Act to determine whether or not the rules proposed at that time, in fact required the preparation of an EIS under the Environmental Policy Act. So pending the adoption of any rules the Department did prepare a preliminary environmental review and determined that certain segments of those proposed rules were considered major state actions and did have a potential significant impact on the environment, and therefore the Department in approximately the end of March, 1982, announced that it would do an EIS on certain segments of those proposed rules and any further action to adopt them were postponed pending the preparation of the EIS, the Environmental Impact Statement. From that time on, and because the Department--this was the first one the Department has ever prepared, it took us awhile and a lot of time was spent. Finally in July of this year, the Department released a Draft Environmental Impact Statement. The time that draft was released, over a hundred copies were mailed to the various organizations that the Department determined would have an interest, or which had expressed an interest in the Draft Environmental Impact Statement. The purpose of course, was to solicit comments from those interest groups on the draft. In addition, the media was notified that the Department would schedule these hearings to receive testimony, again, on the Draft Environmental Impact Statement which includes a preferred alternative. We are now completing that hearing process. Yesterday, we conducted a hearing in Miles City, today the hearing in Great Falls. August 31st is the final deadline for submitting written comment.

At this time, I would like to introduce Director Keith Kelly who will give you a summary of the DEIS, along with a summary of the proposed selected alternatives. Keith.

KEITH KELLY: Thank you Mr. Chairman. The first observation I might make, I think, after some time in early 1981 the state of Montana, the public serving the Department of Agriculture has had a lot of time and effort spent with regards to the usage of the particular pesticide endrin on army cutworms in Eastern Montana. As you are all aware, what brought this to the forefront was during the spring of 1981, there was a major outbreak of army cutworms in Eastern and Central Montana that resulted in just short of a hundred thousand acres of land being treated with endrin. It was early in March of that year that the Department designed a program for monitoring on residues because of differences in practices of farming, regarding block farming etc., that we were seeing residues in the soil, vegetation, water, aquatic sediments and treated in their fields. Then it was after, there was a mis-application, I guess one could call it, of endrin and toxaphene that caused some fish kill in Sunday Creek in Custer County that year that the Department of Fish, Wildlife And Parks was asked to cooperate in the monitoring program to measure the affects of endrin applications on fish and wildlife in addition to soil sediment and some of the other things we've mentioned. Also, as for the embodiment of that particular program, the Department of Livestock cooperated by analyzing the beef tissue and raw milk through the regular statewide monitoring program to see if there was any possibility of endrin residues getting into the food chain through consumption of beef or through milk cows. I guess the comment I would like to make at this point here, it appears perhaps if we had had this meeting two years ago, we would have had an overflowing crowd that after a considerable amount of time and effort spent on trying to address the endrin issue and working literally with just about every group from anywhere on the spectrum that had any concern about the usage of the pesticide endrin; the Department, with very short manpower and not with what you'd call a staff that was trained or in the position to be drafting EIS's, this was our first experience in putting together a DEIS which we at this point at least, that will depend upon the outcome of this hearing, still that we have adequately addressed all of the issues being raised and the concerns with the use of this particular pesticide. And perhaps its a sign of the times that through a very thorough process that perhaps we are faced with a problem that is much different than it was two years ago. Subsequent to the analyses that were initially taken in 1981 and also in 1982 that showed endrin residues in varying degrees in nearly all the environmental parameters that were sampled. And what was real concern with the problems was the endrin residues in game birds that exceeded the action levels of 0.3 parts per million set by the USDA. And the only thing we had that to base on was that there was never any criteria or limits set for wildlife with pesticide contamination and we used as just a base line, or something to reference to was the 0.3 parts per million maximum allowable limits of endrin residues in the body tissue and fats of poultry and domestic livestock. We used that 0.3ppm for wildlife. And it was because of these widespread endrin residues and the possibilities of its effects on wildlife, the potential for its contamination on agricultural products and forage when endrin is applied to a wheat crop, there is some certain very long term restrictions that go with that as far as when the livestock man can graze his cattle or sheep on those acres treated with endrin. So it certainly had an impact for livestock producers directly too. That was measured as best we could the potential effects for human health, and it was the determination of the department going through the MEPA process that endrin should be restricted.

There were actually 14 alternatives that were reviewed, but initially on the onset, five of them were rejected because they just failed to resolve the endrin problems and also probably created adverse economical, additional adverse economical impact. I'll briefly share with you the nine alternatives that we reviewed in detail and from there the one that the Department is proposing at this time to go forward with in a rule making process after the entire review of the EIS.

The first alternative of course, we looked at was no action at all, and just basically going with the label that we have on the usage of endrin in Montana today.

The second alternative reviewed was endrin applied by commercial applicators only, in hopes that the endrin applications would minimize any potential mis-applications and we have people being much more alert and cognizant of what are the label restrictions.

The third alternative was a buffer zone around private and public waters. The endrin label has always carried the requirement of a buffer zone around public waters and we've in our alternatives mentioned private waters too, minimizing the residue in the environment.

In alternative number four would require commercial or private applicators to complete a training by the Department of Agriculture prior to any endrin usage, or endrin purchase I should say.

Alternative five dealt with endrin applications restricted to the ground equipment only, thereby trying to reduce the contaminating, the contamination of pot holes and bodies of water.

Alternative six - use of endrin only where economic infestations are confirmed by trained individuals to exceed 1% of a county's total planted small grains acreage in a given year.

Alternative seven dealt with endrin application only after confirmation of an economic infestation by trained individuals on a field by field basis.
Both of those alternatives, while they appear to be fairly good alternatives were just absolutely unworkable given the manpower required to go out there and do field by field spot tests to try and measure the infestation levels in the various counties.

Alternative eight was to limit endrin sales in Montana to 5,000 gallons per year and basically we've had an informal agreement at the present time, not a firm rule, but to look at restricting endrin to 40,000 acres or less is certainly not as large as the infestation was in 1981 of approximately 100,000 acres, and that 5,000 gallons of foliage was what we've formerly been using as a benchmark for the last two years. Unfortunately, we've had cutworm outbreaks that did not reach that threshold level and army cutworms,and that was, plus coupled with the fact that we've had alternatives available to look at tests and also for their effectiveness on the control of cutworms.

The final alternative was to suspend the sales and the use of endrin and to cancel endrin registrations when alternatives are registered by the Environmental Protection Agency and that is the proposed action by the Department of Agriculture is pursuing at the present time. That's the alternative that we were putting forth to you today--I'll just briefly summarize some of our findings as to why we came to this point and go forth from there to you to comment on our proposed alternative. I want to reiterate, it is to suspend the sales and usage of endrin and upon the permanent registration of one of the alternatives, then we would cancel endrin usage in Montana for army cutworm control when it's registered by the Environmental Protection Agency and the State Department of Agriculture. What we had in the problems of 1981 is that commercial and aquatic animals that were occupying or frequenting grain fields and adjacent areas can be acutely poisoned through direct spraying or consumption of recently treated foliage by endrin. We also have a problem with sublethal effects of animals
can result from consumption over a period of time of endrin residues in plant and prey species. These effects may alter behavior and they may reduce survivability and cause reproductive problems. The persistence of endrin can result in endrin being transferred throughout the food chain.

The EPA has concluded that endrin may be a teratogenic to humans with the greatest risk being to female applicators, mixers, or loaders in direct handling and dealing with endrin. Endrin usage can result in residues in game birds that we have witnessed and monitored over the last two years that exceed the action levels established by the USDA for poultry. And therein lies our real problem. There was never any action level for contamination levels determined by the EPA in the past for wildlife and yet Montana is a state that, on occasion, there are considerable amounts of wildlife consumed by people and yet nothing was ever--- wildlife was just never a threat. And so, with that, our studies took it several steps further that were probably different than half of you, the veteran is looking at, particularly the facts on human health through the consumption of wildlife that has endrin above action levels. Another thing that we had to look at quite closely in looking at the overall impacts of endrin is that when used on the livestock that may forage on a wheat field that they may graze later, or they may eat some of the straw in the fall when it's used for bedding racks and being fed for forage, that the endrin residues in there may end up accumulating in livestock, thereby there are restrictions on the label at the present time with regards to the usage of endrin when livestock may eat that forage that they have to stay off that for an entire year. So with the usage of endrin, especially in Eastern Montana and Custer County, where large amounts of livestock are raised those livestock producers who have a crop out there or a field that they can't use for grazing for a considerable period of time afterwards, it did create the issue of an impact for those producers. So it was in the interest of most all groups involved that we looked for alternatives and in 1981 with the major cutworm outbreak we were able to secure the first federal registration of some alternatives to endrin. And there are several promising alternatives that the Department has been reviewing for the last three years and we do have special registration on a year by year basis and I would like to emphasize that--it's only a year to year special exemption registration for the use of these alternatives in Montana. It is not a permanently registered compound that Montana grain producers can rely on in the long term to combat their pest problem, particularly, army and pale cutworms in this state. Those alternatives, purchased called Chlorpyrifos and permethrins, and in the trade names they are Lorsban, Pounce and Ambush. In our review for the last couple of years which we plowed into the draft (DEIS) do appear to be quite workable alternatives, they do appear to be cost effective as far as producers going out and using them--those alternatives--a couple of them to be just as competitive in price per application, so does not run up the input cost for producers, and on the other side trying to control the pest, the initial reaction--the initial data that the Department has, it appears that they are quite well on that side also. We're still going and we will pursue continued exemptions for the use of these compounds, but our goal is to get an actual permanent registration for these products on the books once and for all and when that is achieved, then we will turn to the second part of our proposed draft EIS and that will be the cancellation of the compound endrin itself. The Department, after going through the EIS hearing and depending on what kind of comments we get in the cases, or in the event that we may have missed a major point or that we may have failed to address something that's brought to our attention, we will go back and review the EIS and make whatever changes are necessary to accommodate any shortcomings or data that may be present. After that then we will go through the rule making process, and in an informal setup, we will not, we will put limitations on the usage of endrin by rule. Initially, it will be suspended, there will be two years of existing stocks to be used up in the state of Montana and that was to accommodate people that may have stocks on their farm and bought endrin and may have a little bit of stock left over. They have a period of two years to dispose of those stocks under current label requirements on getting rid of the endrin products. Thereafter, then it will be required that those stocks be disposed of according to EPA criteria and the Department of Health and Environmental Sciences statutes that pertain to hazardous wastes, because endrin will fall under a hazardous waste compound. Or they can return it to the manufacturer. The additional restrictions that we would place upon endrin by rule would also include reporting all intended applications and extending the buffer zone restrictions to include private and public waters. And then once any of these effective cutworm control chemicals, as I mentioned, Lorsban, Pounce or Ambush, when one of those is permanently registered by the Department and EPA, then we will cancel endrin registration for use on small grains in Montana. So for the two year period, the usage of endrin would be allowed in compliance with the existing statutes and with existing label requirements to work off the inventories that have already in place in Montana. We would also require pesticide users to maintain accurate records, submit endrin sales as required by the administrative rules of Montana. The cancellation of endrin for grasshoppers and small grains would continue--endrin was cancelled for grasshopper usage in March 31st of 1982 because the Department felt there were viable economical and effective alternatives. That cancellation continues. In the registration for vole control in apple orchards, with the implementation of this rule would be cancelled immediately. The suspension, our rule that we are proposing suspending the sales of endrin effectively takes in and off the market, except for some inventories that may be sitting out, and it's the Department's belief that there is very little stock sitting anywhere in Montana, because candidly, when we were doing our research project this year attempting to find some endrin for comparing with the alternatives with joint projects with the Brigham Young University, the Department of Fish, Wildlife and Parks, the Department of Agriculture, we had a difficult time finding some endrin stock to use in the research program. So we feel that there is not a large amount of stock out in the state of Montana. The suspending use of endrin presents several other potential problems. First of all, the effective alternatives that we have experimented, and now we have two, almost three years of data on it, they are not permanently registered by the Federal Government. This is actually the federal EPA. For several years, we've made it available to growers by getting a special exemption through the EPA to be used in emergency situations. And that is the statement we are holding out, why we have only suspended the usage of endrin from time to time, and not completely cancelled it, because we want an effective alternative registered, knowing that it is available for the agricultural community in the state of Montana. The second consideration is that grain growers must have effective alternatives, methods that will work for grain growers in environments all over the state of Montana for cutworm control. As indicated earlier, preliminary information indicates the alternatives will be effective. They have not been tested on as wide a basis as we would like, but we do have some pretty good data now where a couple of years, probably have not exactly duplicated the dry, early spring that we had in 1981 in Custer County and Eastern Montana and so there are some questions that still have to be answered by the state Entomologist.

And finally, for you of the state to consider the alternative chemicals as an environmental panacea. There has been a real effort by some people and groups that we immediately embrace some of these alternatives and with that we, you know, we want to make sure it goes through the complete rigid process that all chemical registrations must go through at the federal level. What appears to be a viable alternative at this point in time perhaps endrin was there fifteen years ago, as a new panacea to replace some other compound that was in use. We want to make sure it meets all the constraints to be safely used, be economically efficient for producers, and have minimal impacts on wildlife and on human health and all other environmental aspects with the soil, from the soil to the plants themselves. Some of these things, I guess what we're looking at the alternatives that make them different from endrin are these; they do not bio-cumulate or pass through the food chains which makes them much more attractive than the usage of endrin. We have known and are measuring, as we've done for the last couple of years we have seen endrin residues in aquatic sediments up to 55 weeks. We've measured it's soil quality. I should indicate, they're barely measurable levels, barely detectable, but there is still some presence in the environment, in the soil, in the vegetation quality and some other things for a long period of time, whereas the alternatives will dissipate in the environment much faster just because of the nature of the chemical. As a matter of fact, in the chlorpyrifos residues, it's just not long at all, about 99% of the residues of those compounds are dissipated within the first ten days into the environment. They are lost.

One other comment, I guess, we looked at several aspects of all of the alternatives and they addressed terrestrial wildlife, aquatic and semi-aquatic wildlife, water quality, aquatic sediment, soil quality, vegetation quality, air quality, endangered wildlife, recreational activities and spending, and we're all aware that endrin has had some impact on the recreational spending and especially with licensing for ducks and upland game birds. It is impossible to measure how much of that total impact was created by endrin, but it is certainly conceded it had some. With the suspension of the sales and usage of endrin, that certainly now should be minimized. We'll have to see final to tell what can come back on people purchasing licenses again. But we also should know or alert you that that means that there will not be any contamination of upland game birds and ducks by endrin usage in Montana, however, we're going to be honest and completely acknowledge that there is the potential for contamination of endrin that is registered in most of the surrounding states of Montana and it's still registered in Canada, has not been used since 1972 in Canada, but many of the states to the south of us still currently use the endrin product, so while we can have quite a few assurances that there will not be contamination of wildlife in Montana with regards to endrin, we can't make any absolute statements that, especially in some of the wildlife that are coming through the flyways may or may not have endrin residues in them. Another area that we looked at was agricultural production. And that was a key criteria that the agricultural communities, their primary goal was that they have a compound that was effective on the control of cutworms, and it's economically viable to use, it doesn't cost twice as much for application and what not especially in these times when the agricultural economy in the state of Montana and the nation as a whole is having a very difficult time making ends meet. It's difficult to propose a new chemical on them that may cost them twice as much, then we haven't created a very good alternative. We do feel that this price competitiveness of some of the alternatives, particularly Ambush and Pounce on a per acre basis of application, is nearly equal or the same as applying endrin, so economically we satisfied that criteria. As I indicated, early information indicates that endrin is effective in controlling cutworms and some of our data indicates may be more effective than the usage of endrin itself. We also looked at a parameter called personal income, and that primarily had to deal with what it would cost farmers who applied it. The alternatives as compared to endrin, the human health issue, local and state taxes or fees and government services. We all well know that the cost of government services to the Department of Agriculture these last couple of years in attempting with a limited staff to put together a draft EIS has been nothing short of overwhelming. Some other services have had to take a second seat or stand to the side in the meantime until the EIS process was completed.

So with that you have before you, many of you probably have the summary that was passed out here. The very last page of that, depending on the outcome of the draft EIS, just very quickly go through the proposed rules, and some of this is repetitive.

No. 1. We suspend the right to sell or otherwise distribute or purchase the use of endrin for small grains in Montana that are to control army and pale western cutworms. All existing stocks that are in the state and that are in the possession of certified commercial or farm applicators would be, must be used up after two years after the implementation of the rules. This two year time period we want to phase out the other available stocks of endrin in Montana. There also will be further restrictions for particular stocks out there to be phased out. No aerial applications shall be made within ¼ of a mile and no ground applications shall be made within 1/8 of a mile of any lake, pond, river, stream, or irrigation system, whether public or private; and that is a further restriction that is on the existing label. We're also required that in any intended usage shall be reported by telephone or in writing by the applicator to the Department prior to application, giving the general information: name of the owner, name of the applicator, where it's applied, when it's applied, and the amount of acres to be treated. And at the end of any two years and, this is a little repetitive as I mentioned, any of those stocks will have to be disposed of according to procedures established by our Pesticide Act in the Department and the Hazardous Waste Act in the Department of Health or returned to the manufacturer. It is a hazardous chemical and can no longer be disposed of by going out and spraying crops.

We are also requiring the dealers, upon implementation of this rule within a certain given day that they do not purchase any more endrin stocks at all. And they must return it to the manufacturer if they have some on hand that, which has now been determined the number of days--be it 30 or 60 or 90, they must be returned to manufacturer. The primary purpose of that is two-fold. We do not want to create a real hardship on some people that may have endrin stocks around at the present time, although we firmly believe there is very small amounts of endrin stocks available in Montana in the hands of either private, commercial or farm applicators. We also don't want a situation where we have a last minute sale and everybody goes out and buys large quantities of endrin that they may be able to use in the state for many years, so the dealers, the word is out, rules implemented, and the dealers must get rid of their endrin stocks. The point is not to create a real economic hardship for some of these smaller businesses that are trying to run a grain elevator and maybe sell a few pesticides and other things on the side. As I indicated, the registration of endrin will be automatically cancelled when one of the alternatives becomes permanently registered--and if that does not happen, if for some unforeseen reason, although we feel optimistic within the next or perhaps this year, one of the alternatives will be registered. But if that does not happen, and we are not successful in getting a permanent registration, then the sale usage suspension or registration, cancellation shall be automatically vacated and we'll go back, what I guess I am saying, we will go back to the existing label and endrin usage will be authorized in the state of Montana. So that is kind of like, you know we've got a 'bird in hand' with the registration of endrin right now, however, we're betting on the two birds in the bush, and want to make sure that we've got the permanently registered products here that will be available for producers. And we anticipate that happening, at this point in time, but it's not happened yet. That basically covers the various aspects of our proposed rule on endrin which is basically a mirror of what our proposal is under the DEIS. You're here to today, I guess, to tell us where we've missed the boat, or where you think do you agree with our alternative or if you have some other technical assignment that indicates we should be doing otherwise, we certainly would appreciate that bringing to the forefront. As I indicated, we do have the staff here with Gary, of the Environmental Management Division, the Division that is responsible for the portion of the Montana Pesticides Act, and the Technical Bureau Chief where a lot of the responsibility fell upon George and his staff for putting together the draft EIS. I'll be very candid, I think we've done a, (the Department's done) a pretty darn good job, especially with the limited resources and time of putting together EIS when we've not had the experience or wherewithal or the resources of putting together EIS's, the government passes new ground for the department to plow, but I candidly do think that we have addressed the issues quite adequately, and we're anxious to hear your comments and hope that you can concur with us, but we'll take it from whatever goes from there. Thank you.

TIM MELOY: As Keith indicated, the draft itself is quite a lengthy document. We have prepared summaries, and we do have some summaries with us at the back table for those of you that don't have a summary and didn't get a chance to look at this particular document. I'd like to point out at this time that all written comments received prior to this date at the Helena office, or in Miles City, or here today, will be considered part of the record and will be reviewed by the Department along with hearing testimony before it prepares its final EIS. We are, as you probably noted, taping this hearing, so that we do have a verbatim record of the testimony. Those of you that are going to present oral testimony, then we would request that you come to the microphone in the center of the room and use that microphone so that we can be sure and get your statement. If any of you plan on submitting written testimony as well as oral testimony, we would request that you try to summarize your testimony rather reading it. So, if you do present written, then we do of course, have that to look at. I don't believe it's necessary to set any time limits on oral presentation. However, we do request that we keep in mind the topic under discussion, and that we stick to that topic. Testimony should be the DEIS, it's adequacies, inadequacies and the selected alternatives. There will be no rebuttal or cross examination unless requested by the presiding officer. The presiding officer or his staff may ask questions of the witnesses if they determine that its necessary to get further information. If you have any questions concerning the draft itself, the selected alternative, procedure, whatever; state your question so that we get it noted in the record. If it is something that we can answer at this time, one of us will answer it for you. If it's something that needs further review, we will indicate that we will take the question under advisement and you will receive an answer to that question at the time the EIS is issued. We, as some of you may know, the shole process regarding the endrin issue has necessarily involved the Department in two separate statutory processes. The first is the EIS process required by the Montana Environmental Policy Act. The second process is the rule adoption process required by the Montana Administrative Procedure Act. At this point, we are just completing the Environmental Policy Act Process which affords the opportunity for hearing. When we do complete the Environmental Impact Process and we decide to go ahead with the alternative 9, the preferred rule, then we will be required also to go through the Administrative Procedure Act process which again affords opportunity for hearing. However, we are requesting that should the, when we enter the rule making process and we anticipate doing so with alternative 9, or a very similar wording of alternative 9, we would prefer not to have to go through the hearing process again. So we would therefore encourage you that if you do have comments on the selected alternative as the proposed rule that you make them now so that we don't have to needlessly go through another hearing process in order to get the rule in effect. At the conclusion of the testimony, Ill make a, just give a brief summary of what happens at the conclusion of this process to give you an idea of the requirements that we must follow to complete the process and in the approximate time frame. One final note, those of you that have access to or have a copy of the draft, we urge you to hang onto it, even though it's entitled the draft. We're out, we have no more. It's a considerable expense to reprint them and we do anticipate that this will be the basic document in the final. Now that's not to say there won't be changes, depending upon testimony and comments in our review. However, we do anticipate if there are changes to do it by addendum so that we can continue to use this as the main document. So in the event that we do go with this as the final, please hang onto it. With that, I believe we can start testimony. I note that of the people who have signed up, we only have two people who have indicated that they wish to give oral testimony. I think what we will do, is call on those people first, and then if any of you others decide that you do wish to make a statement, we will open it up and if you'll just simply raise your hand at that time, we'll call on you and get you to identify yourselves and make a statement. With that, the first witness, Tom Daubert.

Thank you. For the record again, my name is Tom Daubert, and I'm assistant director of the Montana Environmental Information Center. I'm speaking today on behalf of the 1500 families statewide of the Montana organization. In essence, we agree with the Department's own evaluation of this job, DEIS. We'd like to commend the department for writing a good, very readable document. We were particularly impressed with the range and depth of your information it contained. So, on behalf of our membership and the Montana public in general, thank you for your work on this EIS. To me, this EIS symbolizes that the existence of an authorization for a chemical by the Federal EPA does not, in and of itself equate with safe use of that chemical on the ground. What we discovered here with this EIS, is the basic

conclusion of the EIS that even when used in accordance with the federal label, endrin can cause environmental impacts that are unacceptable to us in this State over the long haul. What that says to me is that Montana can, and should, take a second look at the authorizations that do exist from the EPA. There are improvements in chemical descriptions that we can make here that EPA may not consider at the time they originally authorized the chemical and that are warranted and that would serve society. So, my first points are, we support the DEIS's fundamental conclusion that endrin does pose some serious environmental hazards, even when used in accordance with the label, and we support the proposed action of suspending endrin use, and cancelling it once the federal government comes up with an authorization for alternatives. Although again, it came up what I just said, and what you yourself said Keith, in your summary, that we obviously want EPA to have gone through the steps of deciding that these alternatives are acceptable, but we may have improvements as a State on whatever the EPA comes up for those chemicals as well, that we do need to look at and consider at that time. I think the EIS does have some weaknesses though, and they're not necessarily weaknesses that are the fault of the Department, but I think they're important because they speak to how I think this document should be regarded in decision making, not only about endrin, but about other aspects of the Department's regulations for chemical applicators, certification, education and other activities of the Department. Throughout the DEIS, I guess there's one place in particular I had in mind when I say this, there was, there were four alternatives that were initially considered that were rejected from detailed consideration in the EIS. One of those was the alternative of banning endrin right now, regardless really, of the economic consequences. I'm not advocating that alternative at all, but what I wanted to note was that in the portion of the EIS that summarizes that alternative and then rejects it, the implication, there is an implication there that economic difficulties alone justify a decision not to ban a chemical, and the question that raises to my mind, is what I see as being the fundamental question that all Montana has faced in the wake of the wildlife contamination issue, which is: At what level of hazard do we as a society have to say the economic consequences of not using this chemical are just tough? At what point do we say that we cannot afford the environmental hazards, and that we have to bear the economic consequences of not using some? To me that's the fundamental underlying question, not only in this EIS, but where all chemical authorization and restriction issues are concerned. And I guess I would have to say that I don't think this EIS ever really comes to grips with that question. It's obviously not a simple question, but I think that's the basic issue that we're all looking at here and I would recommend that you try in the final to flush that out a bit more, for the future really, for making future similar kinds of decisions for Montana. On what basis should we be making those kinds of choices. Similarly, I
35 think the EIS suffers from its inherent quality of focusing
solely on endrin and solely on various alternative rules

35 pertaining to endrin use. Again, I wouldn't fault the Department for that weakness in the DEIS at all, it's a function of the MEPA process, and the particular rules that led to write this EIS. But I think its important for the Department and for all Montanans to realize that the contamination involves more chemicals than just endrin. It involves chemicals more chemicals than just endrin. It involves chemicals that are as hazardous if not possibly more so than endrin. It involves chemicals, some of which have been banned for years and which evidence does suggest are still being used in Montana. And so, as the EIS acknowledges it in a number of places, following through with your proposed action will reduce for example, health threats associated with endrin caused by endrin use in Montana, but there still are a wide variety of other health issues relating to contamination that no action relating to endrin is going to address, and I know you know that, but I think it's important for all the people of the state and the agricultural industry and sportsmen too, to all keep that in mind and not forget it. Because, I think, recognizing that we're looking at a array of chemicals and at a set of conditions surrounding the use of chemicals that are creating a number of problems and hazards for the state leads us to think in terms of solutions to some of the problems that are not proposed in this EIS, and that I think the Department should pursue as along side the alternatives, the proposed action in this EIS. And so what I would say in conclusion is that I think it's important for the Department to pursue several things along with the rule making bit that this EIS is going to lead to. The first is the question of crop insurance, which again, was one of the four alternatives that did not make into the EIS for detailed consideration, and there were a lot of reasons for that, among them the fact that this is basically a new kind of idea, and it would have taken a whole lot of time to flush out the possibilities, and as you say in the EIS when you prefer that idea, you acknowledge it would take a feasibility study and quite a bit of time and thought to come up with even a proposal, let alone to consider the merits. But you acknowledge that it is possibly a very good idea and certainly worth looking at, and we would recommend that the Department not drop that idea now. If you continue looking at it and thinking about ways a crop insurance program for say, the whole range of restricted use chemicals for perhaps for certain classes of restricted use chemicals. Consider what kind of crop insurance program perhaps might work and perhaps set as a goal taking to the '85 legislature a proposal for a full blown feasibility study of some sort along those lines. We would recommend that. One of the questions your proposed action raises concerns the disposal of endrin, when and if the cancellation is to take effect, and you say that that disposal would have to conform to EPA and Health
5, 36 Department regulations. My understanding of the of those regulations is that individual farms can dispose of chemicals on their own property as long as they do so in conformance with label instructions relating to disposal. I may be wrong according to one of two of your staff, but my point is that we would recommend that you start thinking now about whether or not

when the day comes that the disposal of existing stocks would start occurring, whether or not the existing regulations and laws and systems for overseeing that are good enough to protect Montana's environment after the disposal. So, the suggestion there is to evaluate the sufficiency of existing disposal laws and systems for pesticides in Montana. And again, as with some of these other suggestions, the suggestion that runs broad if it effects more than just endrin, and the ultimate application of whatever ideas you can come up with ought to be broader than just endrin.

4, 23 The EIS also acknowledges that there is very little, but some knowledge out there about cultural practices that, while they cannot respond to any existing cutworm infestations, do have value in minimizing the potential for cutworm infestation. And we would suggest that the Department has the responsibility to continually look for and promote cultural practices and to help, to be a part of the development of new information there, to promote cultural practices that will reduce the need for chemicals in the first place without, while at the same time providing cropland protection. A broader application throughout the state of what is already known of certain agricultural practices might be able to further reduce this problem right now. There might be, fewer people might want or need to use endrin and even with the alternatives when and if they are authorized they might not be used as much, people might say, the modern practices could benefit everybody if the Department would follow through on that.

We would also recommend that the Department start as a regular process a monitoring behavior and attitudes among chemical users, and among the people who have taken the certification classes that you give. As a way of generating meaningful data about abuse of chemicals, or misuse of chemicals, meaningful data about the extent to which people may not be using chemicals in the most cost effective ways, etc., etc. I think there's a lot the Department can do to get a better handle on what's really going on around the state and that that kind of information could suggest improvements, not in regulations so much as in education, and in what kinds of messages people have not heard that they need to hear. Or what kinds of messages they are hearing that are inaccurate, so that's very important and I think that that could be embodied in your continuing education program that's part of the certification process. I know you are in the process of making program improvements there and we're looking forward to working with you on that, and to making contribution, but I guess one of the suggestions I have for the record is that it seems important to us for you to be monitoring the effectiveness of your education program. To always be looking for ideas on how to improve it. I guess with that it's time to conclude and thank you.

TIM: Thank you.

KEITH: Mr Chairman, Just for the record, to show Tom regarding some questions that were raised regarding the problems we had with the disposal of endrin after a two year period. Endrin has, will fall under the category of hazardous wastes, and with that, Department of Health's new regulation under RCRA I'm trying to think with a mouth full what that all means and disposal of hazardous wastes, that product will be required to meet the hazardous wastes disposal criteria which, at this point the closest point is Mountain Home, Idaho, so we have addressed that very issue and are working, as a matter of fact, one contact was made with the County Commissioners, I believe, on trying to identify other chemicals out there that may have been banned for the last several years to see if we can't put a coordinated program with the state together to collect old barrels of chemicals that may have been sitting for several years. But endrin does fall underneath that, and that will prevent a producer or anybody else going out and disposing of it on his own property. Of course, the label will require it to go to Mountain Home, Idaho.

Tom: I guess I hadn't seen the new rules that the Health Department is adopting along those lines, but I know there is a cutoff point in terms of quantity below which the generator, the waste generator would be exempt in certain ways, and so that might be variable from farmer to farmer. Sounds like, you know it's my understanding that they are changing those rules in ways that, and I guess you are saying that you are looking into whether or not that will be a problem of what kinds of different disposal systems we might get.

TIM: Next witness, Sandra Ekberg

SANDRA: Well, I'm Sandra Ekberg, and I'm speaking today for Montana Farmer's Union. And I'd like to briefly re-iterate our statements that we have made over the past year, expressing our thoughts on pesticide usage. We have very closely studied and followed the particular situation over the past year, and we recognize the need for responsible regulation of the sale and use of chemical pesticides, and especially endrin. We have read the draft EIS and we feel that alternatives 6 through 9 were worthy of consideration, both individually and collectively. Because we were emphasizing the need to develop effective and reasonable and inexpensive chemicals, before banning endrin, we recognized the need for a time frame to use up the existing inventories before that banning, extending buffer zones and the registration of it, we in Montana Farmer's Union support the Department's proposal No. 9. Because all of these were addressed in that particular proposal, we do want to say again that we support that Department's proposal. We do have a couple of suggestions though. Because timing is so crucial in applying these alternative chemicals to make it as effective as endrin, we would like the Department to make a real effort to inform and educate the farmers and ranchers so costly mistakes are not made. Also, we'd like you to take a look at the paper work of dealers, sellers, applicators and to keep that to a minimum and yet realize the maximum information from that. Again, we do support the Department's proposal for alternative No. 9. Thank you.

TIM: Thank you. That concludes the persons who indicated they wished to give oral testimony. I notice there are still other people here. Is there anyone else that would like to make a statement at this time?

Tom: I just thought I wanted to say one other thing. I know after all the work you guys have done, it must be discouraging to hold hearings and have so few people attend. But I guess I just wanted you to know that I think there are thousands of Montanans who care a lot about this decision and this process and this issue and who might not be here today telling you what they think, but who are following this and do have ideas, and who's ideas have contributed to this, and so don't feel too badly.

KEITH: Mr. Chairman, for the record, we don't feel discouraged at all that a lot of people didn't come. Hopefully, it's an indication that they felt comfortable with the process that we've been through. I mean, that's what we're hoping, we hope that's the measure and they're not feeling discouraged. We feel a lot better with just a few coming out and saying, sure, there are some problems, but we basically support them, than we let a room full just tearing us from limb to limb saying that we've missed the boat completely, so we don't feel discouraged a bit.

TOM: Good.

TIM: Are there any more comments? Testimony? Very well then we'll close this portion of the hearing. As I indicated, I would like now to give a brief summary of the procedure from here on out. If that generates any questions, we'd be happy to attempt to answer them. This will close the hearing process. Tomorrow, we'll close the deadline, will be the deadline and the closing for receiving written comments. From tomorrow, the Department has 30 days to make a decision. That decision will either be to issue the draft EIS as is, or with necessary modifications, as to final EIS, or to decide that a major revision is necessary, in which case, a revised version of this draft will then have to be issued and reprinted. So once the decision is made, in which ever form, to issue the final, either as a draft or a revised final. Once that decision is made, then the Department has what time as is necessary to prepare the final EIS. That final will include a summary of the major conclusions-it will include a summary of the comments received, it will include responses to any questions, any objections, significant questions, objections, criticisms, and finally, that final will include the wording of the preferred alternative selected. On the issuance of that final draft, the Environmental Policy Act requires that it be filed with the Governor, the Environmental Quality Council, and issued to persons who have expressed a prior interest in this process. Once that filing and mailing has been made, then the Department is required to wait a minimum of 15 days. After the end of that 15 days, it may take its final action. In this case, it's final action will be most likely the proposed adoption of a rule regulating the sale and use of endrin. As I indicated before, that proposal will have to go through the Administrative Procedure Act process. However, depending upon the comments and the review of testimony, depending upon the final draft of that proposed rule, if there are no significant changes, hopefully, we can go ahead and get the rule adopted without having to go through another hearing process.

So that basically is the procedure from here on out. Yesterday, we were asked approximately how long do we believe it will take until we get the draft, excuse me, the final impact statement issued and we indicated yesterday three months at the outside. Again, it depends. We've got a pretty good idea now the extent of the testimony. Tomorrow is the closing date on the written, but we do have a pretty good idea and it seems fairly manageable, so I believe in hearing, Keith correct me if I'm wrong, they make the decisions as to the priorities and where the manpower lies, but three months is on the outside what we can take to get the draft issue and hopefully, sooner, so we can start the rule making process. With that, let's, Keith, do you have any further remarks?

KEITH: Mr. Chairman, it's not part of the process, but yesterday, some people said they might want to ask us some questions, and usually at public hearings such as this, that's not part of what we were doing, but if you care to do it to ask specific questions hopefully pertaining to the endrin EIS, we might suggest that we, as we did yesterday, offer the same opportunity to you to adjourn the formal hearing process and if you've got some questions, you know, for the record we will be closed, as regards to the hearing itself, so if you have some questions or answers for us, if you want to stick around for that, have at it. If you care to do that, we'll be glad to offer that same opportunity and that's not part of the hearing process, but some of you people have come some distance to get here and may not have a chance to take a crack, or give your comments or observations as how we are or are not doing something in regards to this particular endrin hearing, endrin rule making period, so we will make it available to you too. That's up to you.

TIM: With that, let the record show that this hearing is now adjourned.

III. ADDENDUM

C. MONTANA DEPARTMENT OF AGRICULTURE RESPONSES TO COMMENTS AND TESTIMONY

Note: The numbers preceeding the responses correspond to the numbers appearing in the margins of Parts III. A and B (comments received and testimony).

1. Please see page 11, of the Draft EIS for the reason that an EIS was prepared. Keep in mind that the intent of the DEIS was to evaluate the restriction of endrin use by administrative rule.

2. We feel that each alternative that was considered is distinctly different from others and that they represent reasonable restrictions that could mitigate environmental problems. Alternative 2, for example would confine endrin applications to commercial applicators, a professional group that is more qualified, experienced and has more training than farm applicators. Alternative 4 would not restrict application to either farm or commercial applicators. However, any applicator desiring to use endrin would be required to satisfactorily complete training that was specifically aimed at correct and safe use of endrin. This approach has helped to reduce environmental impacts in Montana associated with other pesticides, namely aquatic herbicides and certain rodenticides. Alternatives 6 and 7 each require surveys by trained individuals. Under Alternative 6, surveys would be general and aimed at detecting outbreaks. Alternative 7, an integrated pest management approach, would require that each infested field be surveyed prior to treatment to identify species and population levels. The intent of Alternative 5 was to prevent drift associated with aerial spraying that can be a source of off target contamination. Alternative 3 was designed to provide additional protection to aquatic habitats and inhabitants. We feel that the DEIS presented a reasonable and diverse array of alternatives.

While we agree that certain alternatives might have been grouped under general headings a more specific approach was chosen in order that readers could associate environmental mitigation with each specific action. The possibility for combining 2 or more alternatives as a preferred course of action was also never ruled out.

3. The primary purpose of dismissed alternative 5 was not to raise and evaluate the issue of the impacts of the use of endrin. This issue, under the DEIS scheme was designed to be addressed, and was fully addressed, under studied alternatives 1, 9, and elsewhere in the DEIS.

Rather, the main purpose of dismissed alternative 5 was to question the viability of immediately cancelling the registration of endrin, at a time when there were no alternatives registered. The department was concerned about the consequences of any action which may seriously limit its regulatory options in the future. Thus, the department was concerned that a registration cancellation would place serious impediments to the reinstatment of endrin use should that become justified at some future date. With this in mind, the department concluded that while registration cancellation should be addressed, it should be dismissed without further study. The maintenance of a registration appeared very essential to the retention of the flexiblity to make future cutworm control determinations should that become necessary.

The reasonableness of this conclusion is supported by the department's commitment in the selected alternative to cancel the endrin registration when an alternative becomes registered. The flexibility to reinstate endrin would not be necessary if an alternative became registered and fully available. However, at the time dismissed alternative no. 5 was addressed and at the time of preparation of the Final EIS, we had no such alternative registration.

It should be emphasized that retention of the registration for endrin in Montana cannot be interpreted as the Department's intent to use endrin. The Department's stated policy remains to support alternatives that will eventually replace endrin. The registration of endrin should be retained until an alternative is registered. This assures that endrin remains as a viable alternative should a cutworm outbreak occur and other alternatives were simply unavailable. We conclude that this situation would present a set of circumstances and impacts entirely different from those present at the writing of this EIS and, as such, an examination of all available alternatives, including endrin, would be warranted. Keep in mind that retention of the registration of endrin coupled with the Department's proposed action does not mean that endrin will be used again. It does delay the cancellation of the registration until alternatives are in place.

The allegation that "no attempt" was made to either quantify the costs or to discuss the benefits of banning endrin, is unfounded. An adequate array of information was presented concerning the characteristics of endrin, the economics of small grains farming, the economics of hunting, and a description of the affected biological, physical, and socio-economic environment. Without resorting to speculation where adequate data simply were unavailable we used these data and descriptions to predict positive and negative impacts of endrin restriction. The loss of post harvest grazing benefits due to the use of endrin was mentioned. The Department did speculate on the possibility of a psychological boost to the general public following banning of endrin. We concluded that these were side issues. The central issues include the economics of endrin as a pesticide, the acute and chronic toxicity of endrin to living organisms and the persistence and movement of endrin residues in the environment. These issues were adequately addressed as were other lesser issues. We concluded that adequate data were presented; the impacts accurately portrayed; and that the process mandated by MEPA was sufficiently met.

4. Biological and cultural control of cutworms were given full consideration on pages 33-37 of the DEIS. The review clearly

indicates that (1) applied biological control methods for army or pale western cutworm are currently non-existent; (2) natural biological control reaches its maximum effectiveness only late in an outbreak after the crop has incurred damage; (3) known cultural control methods are moderately preventative at best, and require the grower to predict such "unknowns" as expected rainfall within a restricted time frame, and the cutworm species expected to reach a buildup phase in his fields; (4) known cultural controls are primarily aimed at spring grain production rather than winter wheat; (5) cultural control methods may have little application under some production management schemes because of potential for increased erosion and weed problems; and (6) cultural control methods are of little value during outbreak years because of the large populations present at the time of an infestation. The Saskatchewan cultural control recommendation on page 37-38 of the DEIS was included as the only example submitted for cultural control for army and redbacked cutworm in Great Plains grain producing areas. Careful reading of this recommendation will reveal many of the short-comings of current cultural control practices.

The Department believes strongly in the development of alternative pest control methodology including biological and cultural control. However, a DEIS on rules is not the proper forum for outlining, in detail, future research needs. The DEIS addressed currently available methodology. Effective biological and cultural methods for army and pale western control in Montana are not sufficiently developed and their lack of availability and efficacy limits their discussion as reasonable alternatives.

5. The Montana Pesticides Act (Sec. 80-8-201(9) MCA) recognizes Federal action which would extend the right to use existing stocks beyond the date of cancellation. That section therefore places a 2 year maximum limit on such use in Montana. The Department interprets this section as equally recognizing the availability of such an extension upon state action affecting use, again with the maximum 2 year use up period.

Allowing 2 years to use existing stocks is a recognition that the end users, in compliance with established laws made purchases with a reasonable expectation they would either be able to use those purchases, or at the very least not lose their investment. While these concerns not only arise out of a common sense of fairness, they may also be implemented through statutory and case law on retroactive regulation.

In addition, this Department has no reason to believe that farmers or dealers have invested in stocks of endrin. In fact, the converse would seem to be true. In 1982 and 1983 purchase of endrin was difficult due to the fact that several major agrichemical distributors in Montana chose not to stock endrin. Records of sales and application of endrin from 1981 to 1983 indicate that purchases were used and not stored to any extent. The following figures are taken from sales and application records for 1981, 1982, through October 1983.

Dealer sales of endrin, and applicator records of acreage treated in 1981, 1982 and 1983 (through October) in Montana

Year	Endrin Sales	Acreage Treated
1981	15,399.7 gal.	98,522.3 acres
1982	620	10,816.0
1983	25	4,009.4
	16,044.7 gal.	113,347.7 acres

The total gallonage sold during the period could treat from 103,008 to 128,760 acres depending upon the application rate, (1 or 1-1/4 pints per acre). Assuming a mean application rate of 1-1/8 pt. per acre, approximately 15,939.5 gallons of endrin may have been used to treat the total acreage for the period. This hypothetical situation leaves about 105.5 gallons unaccounted for, an amount sufficient to treat 675.2 to 844 acres. We suspect that available stores at this time are not much greater than this. Keep in mind that the sales of endrin in 1982 and 1983 cannot be correlated with treated acres because commercial applicators may have used stocks left over from 1981.

We also have no reason to suspect that farmers or commercial applicators are stockpiling endrin. A search of dealer sales records to date indicates no sales out of the ordinary. All sales except one were made during the spring when cutworms were a problem.

It is also interesting to note that more applications were made with alternative chemicals in 1982 and 1983 than in 1981. Of the total amount of acreage treated to control cutworms, endrin was used on greater than 95% in 1981, and 59.1% in 1982, and 7.2% in 1983. This reflects a trend for farmers and applicators to try the new alternatives, and certainly argues against any farmer reliance on endrin.

Farmers who wish to dispose of stocks or discontinue use will have that option. They could accomplish this by returning stocks to the formulator or by disposal in a properly licensed hazardous waste disposal site. It should be pointed out that the Resource, Conservation and Recovery Act (Sec. 261, 33 CFR) and the Montana Hazardous Waste Act classify endrin as an acutely hazardous waste, subject to strict disposal requirements. Endrin can be disposed of only at disposal sites licensed to receive acutely hazardous wastes. The closest sites are at Mountain Home, Idaho, or Bellevue, Washington. The shipping and disposal costs borne by farmers or dealers to dispose of a single 5 gallon container of endrin would be approximately $195.00.

The Department concluded that a practical and reasonable solution to the disposition of existing stocks would be to use them according to label directions with additional restrictions imposed by administrative rules. We do not believe that environmental impacts from using existing stocks will be serious enough to warrant an immediate ban on their use.

6. The Department did not intend the reinstatement condition in the proposed rule as a "loophole" but, rather, as a condition that would not preclude the consideration of endrin as an alternative should the situation arise where other alternatives were simply unavailable. Keep in mind that the Director of the Department is given the responsibility and authority by the Federal Insecticide, Fungicide, and Rodenticides Act and the Montana Pesticides Act to authorize the use of chemicals that are not registered in cases of emergency pest outbreaks.

Nevertheless we agree that in situations such as cutworm outbreaks, reinstatment of endrin should not be "automatic". Rather, careful consideration should be given to the array of available alternatives, both chemical and nonchemical. As a result, Part 5 of the Proposed New Rule on Endrin has been rewritten as follows:

> (5) If during the period of this suspension at least one effective and economical alternative for cutworm control does not remain available; then the department will reconsider this suspension, along with other options available under federal and state law.

The Department does not intend to reinstate endrin if at all possible. Rather, we wish to retain the viability of endrin as an alternative should other alternatives be unavailable. We concluded that such a situation would be entirely different than the set of circumstances present at the writing of the DEIS and thus reconsideration of all alternatives would be warranted.

7. We accept EPA's conclusion about the benefits and risks of the use of endrin on small grains for cutworm control at the time the RPAR process was concluded. However, we believe that new information is now available; information that EPA lacked in 1979. This information consists of Montana's residue monitoring program, the potential availability of chemical alternatives which modify the economic situation and residues in wildlife species consumed by humans.

8. We agree that endrin has been cost effective and a valuable tool for reducing cutworm damage in small grains. The figure, $2,013,000, was calculated by USDA (159 DEIS) as an expected average annual loss of wheat production to both pale western and army cutworms if they were not controlled (see page 21, DEIS). Available evidence including that from large scale field studies indicates that alternative chemicals will be cost-effective in reducing this potential loss. A number of small grain growers in Montana have now tried alternative chemicals and report satisfactory results.

9. See pages 122-128 and 167-168, DEIS. We agree that the registration of endrin should be retained until growers can be assured of effective alternative chemicals. For this reason, the registration will not be cancelled until that time. We also understand and are in agreement with Velsicol's marketing alternatives if the proposed rule becomes effective.

10. Several of the chemical alternatives are comparable in price to endrin (pages 105, 121 and 127, DEIS). Prices were based on 1983 sales from several pesticide distributors. We recognize that a number of marketing factors can influence the cost of chemicals to producers. Based on the information available in 1983, it appears that, several of the alternatives were comparable in price to endrin on a cost per treatment and cost per season basis.

11. We agree that effective cutworm control requires proper timing of control methods. This is one of the basic premises that is stressed in the training that is required to license applicators to purchase restricted pesticides such as endrin. Our records indicate that the great majority of endrin applications were conducted correctly. Proper application makes economic as well as environmental sense. During the 1981 outbreak, Department personnel monitored endrin treated grain fields. Prior to treatment, fields infested with cutworms showed severe damage, but several weeks after treatment these same fields had healthy stands of wheat. For further information on cutworm damage and control, please see the DEIS, pages 20-38.

12. Endrin is registered in Canada; however, use is not recommended because other chemical alternatives (not federally registered in the U.S.) are available.

13. We agree that endrin use in Montana has contributed to the endrin residues in waterfowl and that resident or nesting ducks may receive significant amounts from local spraying. However, we are not aware of any information that would allow the Department to predict Montana's contribution to total endrin residues found in waterfowl, resident or transient. It is critical that readers recognize that waterfowl and other migratory birds can and likely do encounter endrin residues in wintering areas and along migration routes. Endrin is still federally registered for use on small grains in the U.S. and has been used recently in the Great Plains grain growing areas. Even though endrin is still registered in Canada there has been no significant use in the past 10 years. We suspect that Canada contributes very little of the current endrin load in migratory birds. Endrin residues in migratory waterfowl are probably due to repeated exposures which occur along migratory routes and in wintering and nesting areas. While endrin spraying in Montana certainly exacerbates the problem, use in Montana is certainly not the sole source of residues. For further information refer to pages 95, 99, 100 and 128, DEIS.

With regard to endrin residues in nonmigratory species such a antelope and certain upland game birds, it is likely that endrin use in Montana is the primary source. Immediate sales suspension and use restriction should quickly mitigate endrin residues in wildlife.

14. We agree that transport of endrin in the atmosphere deserves consideration. The problem includes air movements created by aircraft wing vortices, natural air movements, air inversions, volatilization during application and from treated surfaces (see page 97, DEIS.) All of these factors may introduce endrin into the atmosphere. Studies demonstrating the amount of endrin released into the atmosphere as a result of applications to small grains are not available. This is a complex question. Atmosphere contamination may be additionally influenced by a number of variables such as equipment type (nozzle, aircraft or ground sprayer), nozzle pressure, and environmental conditions. Volatilization of endrin and its escape into the atmosphere is suspected due to its low vapor pressure. Department studies indicate that some off target drift does occur.

The problem of off target drift is addressed by the Montana Pesticides Act and the Federal Insecticide, Fungicide and Rodenticide Act which makes it illegal to apply a pesticide in a manner inconsistent with the label. Drift of endrin to aquatic areas, non-registered crops, areas of human habitation, and other situations are therefore illegal and subject to criminal, civil and administrative actions.

15. Such use is a misuse under the Montana Pesticides Act and the Federal Insecticide, Fungicide and Rodenticide Act, and as such, subject to administrative, civil and judicial penalities. The MDA is mandated to enforce the MPA and maintains an agreement with the EPA to enforce the federal act.

16. While it is not clear as to what type of consentual process was proposed by the commentor, the proposed rule (p. 167-168) requires that applicators submit information to the Department of Agriculture prior to application of endrin from existing stocks. We agree that the Department should be aware of intended applications and this is accomplished by the proposed rule. The intent of this portion of the rule is to establish communication between the Department and applicators which will allow greater control of endrin applications. Applicators will be advised of the environmental shortcomings of endrin, additional restrictions on use of endrin, disposal requirements, and the availability and use of alternatives. The rule does not require written consent from the Department of Agriculture for the basic reason that the manpower and time required to do so would not be justified by any additional foreseeable benefit.

17. We fully believe that the DEIS was adequately circulated, and the public given notice that the DEIS was available and when hearings were to be held. To summarize, 255 copies of the draft were sent to individuals, agricultural groups, environmental

groups, government agencies, and Montana legislators (see pages 7-10 of the DEIS for groups from whom comments were requested). In addition 55 summaries of the draft were mailed with instructions that copies of the full DEIS could be obtained on request. All copies of the DEIS and summaries contained a letter requesting comments and noting the dates and locations when public hearings were to be held. A press release was submitted to major news networks to inform the general public of the issuance of the draft and of the scheduled public hearings.

18. The Department agrees that misuse of pesticides or poorly controlled applications can be a problem. As we understand the comment, this potential problem is clearly addressed by federal and state laws which prohibit the misuse of pesticides. However, we do not agree that the problem is as severe as implied in the comment; the experiences of the Department's enforcement staff indicate that the great majority of pesticide applications are done according to label directions.

19. See pages 33-37 and page 50 of the DEIS. Also, see response no. 4.

20. See page 50, DEIS. At this time farmers can purchase "all risk crop insurance" which can insure small grains production against a number of natural disasters, including insect damage. Up to 75% of the average yield from a representative period of time can be insured. This type of policy is offered through the USDA, Federal Crop Insurance Corporation; or through private insurance companies for which the FCIC serves as a reinsurer. Since 1948, less than 1.7% of the indemnities paid were for insect damage. Coverage and payment of indemnities under this insurance is predicated upon proper management practices which, for insect damage, include the use of registered pesticides. In cases where farmers did not follow proper management practices or practiced poor farming methods, losses due to insect damage or other natural disasters would not be covered by the insurance policy.

21. Experience gathered over 25 years with commercial formulations of endrin has shown it to be effective in reducing army and pale western cutworm populations. Applications are not made on a preventative basis because of the unpredictable nature of cutworm population buildups. Endrin is normally applied only after cutworms are evident and some damage has occurred. Its success is measured more in terms of vegetation saved rather than cutworms killed.

Clearly, it is a mistake to judge the effectiveness of endrin in controlling cutworms solely by comparing use history with outbreak incidence. Outbreak reduction would require the annual treatment of many thousands of acres of small grains resulting in far more environmental contamination than under the current approach of treating known infestations.

Testing of pesticides does involve the initial evaluation of technical grade (not reagent grade) formulations. These formulations are generally 90-99% pure and lack many of the inert ingredients, emulsifiers, etc. present in commercial products. However, such laboratory testing is followed by field testing with commercial formulations. The toxicity of commercial formulations may be less than technical grade formulations on a per unit basis. However, field testing is done to establish proper application rates for commercial formulations that will provide an acceptable level of control.

22. The Department supports the concept of cultural and biological controls where they are sufficiently developed to act as viable alternatives. In fact, we would encourage growers to follow cultural controls for cutworms as long as these controls do not cause undue economic costs, or result in other unforeseen problems. We also encourage and support research on alternative methods for cutworm control. As previously stated, our assessment indicates that biological controls are not yet developed or well enough understood to be effective against cutworms. Cultural controls may have some value but will not provide reliable control of outbreaks.

23. Beef fat and milk were sampled for endrin in 1981 by the Montana Department of Livestock (see page 45, DEIS). Human tissues and human milk were not analyzed during the 1981 monitoring program.

24. These biologicals are not registered in Montana for cutworm control in small grains.

25. Please refer to pages 54-55 and 167-168, DEIS.

26. The EIS team agreed that economics are an important indicator of environmental quality, and in some situations may provide a common denominator of environmental value by which impacts can be compared. However, it is not always necessary to assign a dollar value in order to describe economic impacts. Other units such as work hours, units of production (i.e. bushels of grain), or recreational units (i.e. hunter days, licenses sold) can be valuable in indirectly describing economic impacts. The DEIS adequately described environmental impacts, using reasonable units of value. In addition, the DEIS presented considerable information on the economics of small grains farming and hunting to which readers can refer and from which we projected impacts.

The DEIS team did consider comparing the economic benefits of small grain production with that of hunting or other environmental parameters. This complex exercise was not presented for several reasons:

1. There is a difficulty in assigning economic values to a number of environmental parameters; i.e. nongame wildlife; water, soil, air and vegetation quality; human health; and opportunities for recreation.
2. Direct economic comparisons, because of the number of variables involved, would be general in nature dealing with statewide trends and averages. However, we do feel a responsibility to consider affected individuals. While impacts averaged for the state might appear insignificant or as a minor hardship; the impacts to some individuals could be severe.
3. We were unaware of any information that could be used to accurately measure the impacts of endrin on hunting. While some circumstantial evidence was presented to indicate impacts, as acknowledged in the DEIS, this information cannot be used to measure the effects of endrin exclusive of other variables that may affect hunting. Such variables in 1981 may have included poor economic conditions, the degree of publicity concerning endrin residues, and warnings to hunters posted by wildlife officials.
4. Comparison of individual facets of the environment may tend to give undue weight or consideration to those facets. The economics of grain farming and hunting were two of the primary areas affected by endrin use and restriction of endrin. As such, they received special consideration in the DEIS but only in terms of describing the affected environment. These areas were not given special treatment in the section of the DEIS describing environmental impacts of alternative actions. When describing impacts we attempted to equally consider all affected environmental parameters. This is an approach which we felt would result in an objective analysis of impacts to all portions of the environment.

In summary, a comparison of economic impacts, or economic benefits, is too speculative to make concrete conclusions with available data. The DEIS did present adequate descriptions of the environmental impacts of proposed actions. These descriptions were sufficient to compare the overall impacts of a proposed action and to decide on a preferred one.

Finally, if readers wish to compare the economic value of hunting versus that of small grains farming, refer to pages 70-92, DEIS. Cited literature in this section can provide additional information.

27. Currently, work is being done on the development of an integrated crop management program for small grains at Montana State University and other universities. The approach of this program has as its objective the integration of several production variables, e.g. fertilizers, irrigation, crop varieties, and pest control, into a total management system designed to maximize net return. The control of grain infesting cutworms would be one component of the total system. In this

context, IPM usually means integrating several control options to maintain subeconomic pest levels.

Fields are monitored by trained scouts to detect, identify and quantify pest numbers. Results of field scouting are used to time chemical treatments, for the purposes of treating only economically damaging cutworm populations and reducing the unnecessary treatment of non-infested areas. This approach was addressed from two perspectives under Alternatives 6 and 7 of the DEIS.

While the concept of IPM is certainly attractive, actual implementation and program success can be difficult. Programs usually involve a corp of trained field scouts or other experts to monitor production variables. In Montana, it has been demonstrated that crops giving high cash returns (i.e., alfalfa seed, potatoes) may be able to support the economic cost of such programs. It is yet to be determined if the low economic return from small grains will support an effective IPM program managed by private industry.

28. There are a large number of studies and reports on the characteristics of organochlorine compounds. In an effort to limit our discussion to those studies pertinent to the current use of endrin in small grain production, we purposely did not cite a number of reports on organochlorines or reports concerning the use of endrin at rates much greater than those applied to small grains for cutworm control, e.g. meadow vole control in orchards. Scientific literature clearly shows that environmental effects of organochlorines vary depending upon the specific compound and/or the application rate. While the studies by Burnham et al. (1978) and Enderson et al. (1982) deal with the real problem of general chronic effects from organochlorines, the case has been clearly stated by scientists that comparison of effects of endrin residue with those of DDT (and its metabolites) and PCB's would be ill-advised. Consequently, we feel that such papers add little to a review of endrin use in small grain production.

29. Concerning endrin poisoning of wild and domestic animals, there are two issues of concern. First, observational and/or circumstantial reports, unverified by proper postmortem diagnostic procedures or by proper experimental procedures cannot be considered positive proof of non-target kills due to endrin poisoning. We acknowledge that mortality of this nature provides intuitive data depending upon the situation but certainly cannot usually be considered fact. Secondly, should adequate verification of endrin poisoning of domestic animals be gathered, one must next determine whether the poisoning occurred as a result of proper compliance with product label directions. The comment that sheep had grazed on treated wheat accidently or in

ignorance of the wheat grower is an example of a violation of label directions. The fact remains, that if the sheep were forbidden access to the field for the required interval listed on the product label, in all likelihood poisoning would not have occurred.

The progress reports by Aldrich (1968) and Hepworth (1968) are information that we were unaware of when the DEIS was written. The report by Aldrich is especially suggestive that feeding or foraging on winter wheat recently treated with endrin was responsible for the deaths of cattle. We would emphasize that investigative reports such as this, while pointing out areas needing further attention, do not replace properly conducted scientific studies. Such studies require rigid methodology, prescribed application rates and detailed diagnostic procedures. The report by Hepworth (1968) implicating endrin in the death of a whitetailed deer provides little additional information concerning wildlife mortality resulting from the use of endrin. Again, in reports such as this a number of variables are left unaccounted for. A report such as Hepworth's, although not published in scientific literature does raise concerns about the effect endrin has on large mammals.

30. The responsibility for conducting required studies and otherwise pursuing chemical registration in the U.S. rests primarily with private industry. After satisfactory completion of the studies, the primary responsibility for authorizing use on a crop (or granting a tolerance) is with the E.P.A.

We would point out that chemical effectiveness may vary dramatically between cutworm species and that, while laboratory and microplot studies are essential steps in product development, full scale field tests plus a wide range of residue data must be completed and gathered prior to a company's move toward full registration. Presently, very few effective products for army cutworm and no products other than endrin for pale western cutworm control in small grains have reached this status. We question the interpretation of McDonald (1981, J. Econ Entomol. 74:45-48). According to the author, endrin is still registered for cutworm control in cereal grains in Canada. Through our conversations with Canadian officials we have learned that endrin and chlorpyrifos have been used little for control of army or pale western cutworm since the early 1970's primarily because of low cutworm populations. Finally, chemical registration in Canada is independent of the registration process in the U.S.

31. This comment addresses an error in Table 39, page 124. As pointed out the correct LD_{50} for ringneck pheasants is 1.7 mg/kg.

32. Looking at Depew (1982, J. Kansas Entomol Soc. 55:339-342), the results clearly show no statistical difference between

acephate, methamidophos, endrin or permethrin. To claim these alternatives outperform endrin based on this study may be incorrect. Furthermore, the work of McDonald (1981, J. Econ. Entomol. 74:45-48), demonstrates the variation that can occur in testing a chemical against a single pest species. Significant differences in efficacy were recorded for a similar test protocol over two test periods. Methamidophos was an inferior product in McDonald's evaluation but was statistically similar to endrin and permethrin in DePew's test. The point here is simply that one must be cautious when evaluating chemical effectiveness via the literature. To single out one paper on which to build a case for effective alternatives can be misleading.

33. On page 11 of the DEIS and throughout the DEIS the army cutworm, Euxoa auxilaris Grote, was the identified pest in 1981. This identification is in total agreement with MSU entomologists. In checking currently registered trichlorfon labels we fail to find one that is registered for army cutworm on small grains although other cutworm species are listed. Field test experience has shown that this product as well as other products, including toxaphene, have performed erratically against army cutworms.

34. From data in the literature and data that Department personnel have collected we have learned some of the characteristics of the two alternative chemicals. Permethrin appears to be efficacious over a wider range of environmental conditions than chlorpyrifos, particularly in dry soil conditions and low temperatures. The efficacy of chlorpyrifos appears to increase at higher temperatures and when the soil is wet or moist. Both seem to work well under "moderate" temperature and moisture conditions.

The two chemicals were selected because of their seeming ability to be effective under Montana's erratic spring environmental conditions. Additionally, the residue characteristics, from an environmental point of view, are considerably different than endrin. As pointed out, each chemical has some draw-backs. Some environmental characteristics of the two alternative chemicals are discussed on pages 122-128 of the DEIS.

35. A Preliminary Environmental Review of a rule which proposed to restrict endrin in early 1982 pointed out that significant adverse environmental impacts could result. This necessitated the preparation of a DEIS to analyze the rule and other alternative rules. Keep in mind that, even though various impacts of endrin usage were discussed, it was the intent of the DEIS to analyze the impacts of alternative rules to restrict endrin use.

36. The Montana Hazardous Waste Act classifies endrin as an acutely hazardous waste. An exclusion permits farmers to dispose of no more than 1 kilogram of endrin on personal property. Otherwise, disposal is restricted to sites licensed for acutely hazardous wastes, none of which are established in Montana.